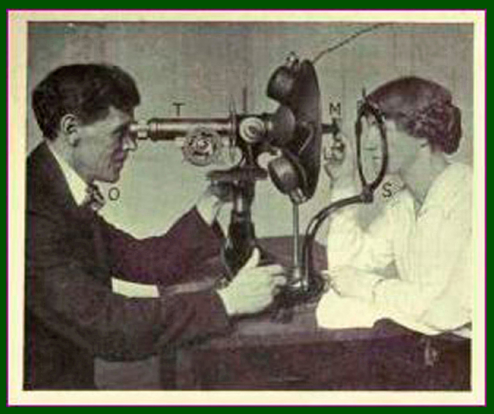
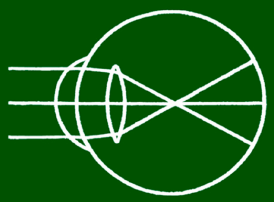
PERFECT SIGHT WITHOUT GLASSES

Ophthalmologist
William H. Bates





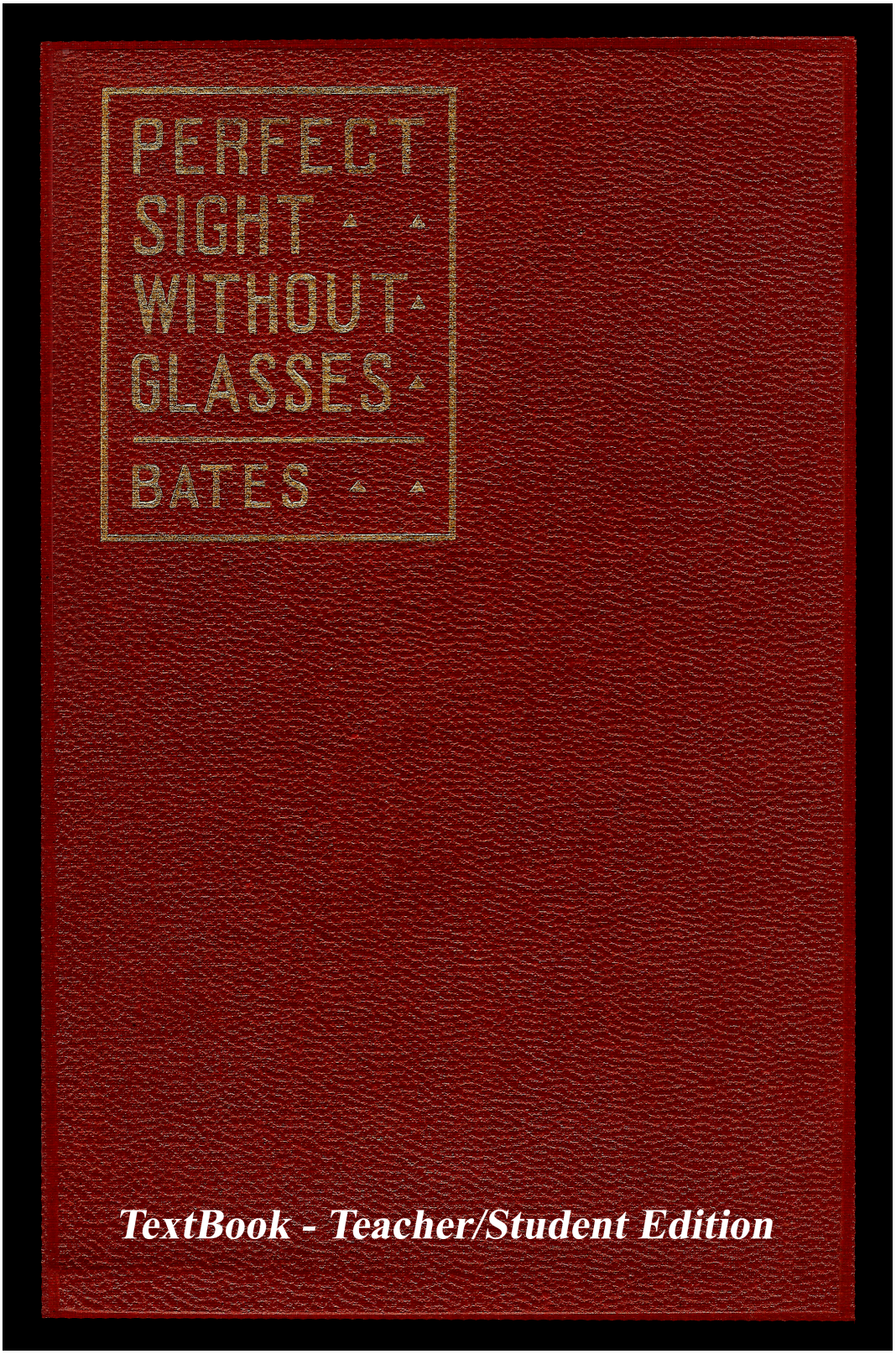
Normal relaxed eye with correct focus of light rays on the retina. Eyesight is clear at all distances.

The Cure Of Imperfect Sight By Treatment Without Glasses

Dr. Bates Original, First Book
with his Better Eyesight Magazine

Natural Vision Improvement

Color Edition


PERFECT
SIGHT
WITHOUT
GLASSES
BATES
TextBook - Teacher/Student Edition

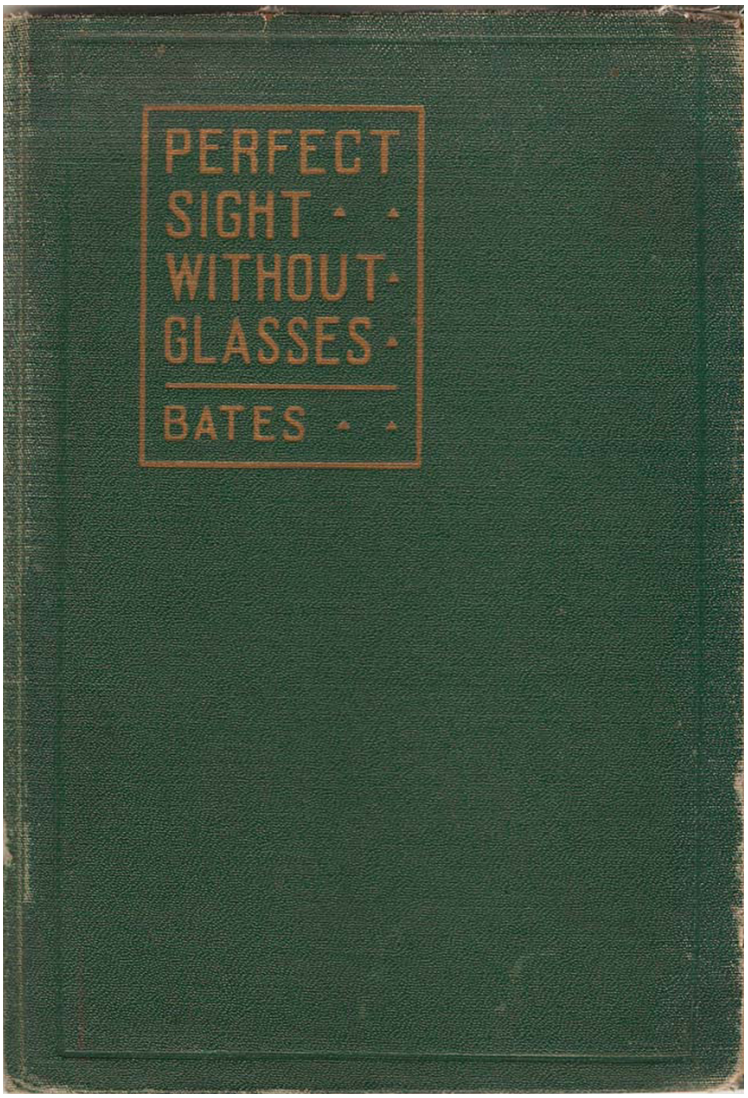
PERFECT SIGHT
WITHOUT GLASSES
By
Dr. William H. Bates

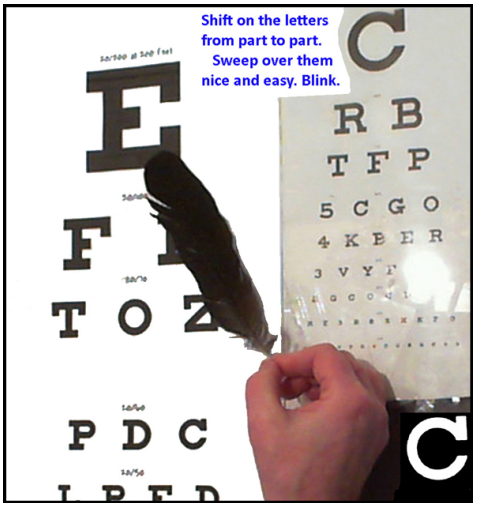
Dr. William H. Bates,
Ophthalmologist - M.D.
Eye, Ear, Nose & Throat.
Discovered the Principles
of Eye Function, Natural
Eyesight Improvement.

The Cure Of Imperfect Sight By Treatment Without Glasses

Dr. Bates Original, First Book - with Better Eyesight Magazine

Natural Vision Improvement





Kindle Book Edition with Training Video inside;

https://www.amazon.com/Perfect-Sight-Without-Glasses-Improvement-ebook/dp/B01CMJV8UM/ref=tmm_kin_swatch_0?_encoding=UTF8&qid=&sr=

https://www.amazon.com/William-H.-Bates/e/B004H9DOBC

YouTube Videos;

Natural Eyesight Improvement;
https://www.youtube.com/watch?v=tUSXISQITVI

Perfect Sight Without Glasses;
https://www.youtube.com/watch?v=_mlyFUyRImo

Better Eyesight Magazine;
https://www.youtube.com/watch?v=ew43-FONaxU

This is the Teacher/Student Textbook Edition. It contains additional Natural Eyesight Improvement practices (with pictures) from Original and Modern Bates Method Doctors, Teachers. A Textbook with tools for learning and teaching Ophthalmologist William Horatio Bates' Method.

A Main Treatment that produces clear eyesight (vision) is; *Shifting and Relaxation*. (And avoiding eyeglasses.) A variety of ways to practice shifting and other natural eyesight practices are described in this book. This is how to shift; when you look at something, *shift* on it part to part; look at a small part, then move (*shift*) from that small part to another small part, then to another small part, another... Blink. When looking at a part - do the same thing; Shift on it - shift on the smaller and tiny parts of the part. Blink and relax. No effort to see. Shift on far objects, middle distance objects, close distance objects, and on objects up close to the eyes at reading distances. You are imitating, inducing natural, correct function of the eyes and vision. With practice it becomes a automatic, subconscious habit. The eyes' relaxed natural movement returns and occurs on its own. The eyes move the vision easy, continually on the object you are looking at. The eyesight is perfectly clear, *better* than 20/20! 20/15, 20/10... This Main Secret For Clear Eyesight is hidden by most eye doctors, opticians and high-priced vision teachers.

Practice shifting on an eyechart letter; sweep over it lightly, soft and easy. Move from one part of the letter to another part, then to another part, another... Blink and relax. Move to a new letter. Repeat. Shift letter to letter. Move upon the chart, letters in any direction, pattern. Brush on the letters with the end of a imaginary soft feather placed in your central field of vision. See pictures, directions for shifting, tracing with the Imaginary Nosefeather at the end of the book. The feather relaxes and brings movement to the eyes, head, neck and body.

Many people are able to see clear with minimum training; *Shift, Blink and Relax. Combine Central-Fixation* (pg. 114) *with Shifting. Practice Switching;* shifting with both eyes together, and one eye at a time on objects aligned at close, middle and far distances. See pg. 404.

Relaxation is a main treatment; Look at a object (eyechart letter...) and relax more and more. (Avoid *trying* to see clear.) The eyes will shift on the letter automatically. As the mind and body relax deeper, deeper; the vision becomes perfect! The eyes shift the vision easy, effortlessly on the letter and from letter to letter. The vision flows over the chart. All letters are seen clear. The entire chart can be read in a few seconds.

Reducing your eyeglass strength, driving... with a safe/legal prescription, permanently removing glasses, and other subjects are taught in this book. A short Kindle version of the book is available. Contains Dr. William H. Bates' book typed in modern text and a few extra directions, pictures teaching *Just The Basics* of the Bates Method. Free training, videos, e-books at www.cleareyesight-batesmethod.info

GoogleBooks, Archive.org and the Website (www.cleareyesight-batesmethod.info) allows this PDF to have more pages containing additional; Medical Articles, Bates Method History and Extra Training. Pages are from the website's 20 free E-books and Kindle, Paperbacks.

For people that want to learn how to see clear naturally without Eyeglasses, Contact Lenses, Eye Surgery, and become a Bates Method Teacher, enjoy advanced study of the method, its origin.

Smaller PDF E-books are available on the website for people that want only the main training and a fast download, smaller file size for phone... Variety of sizes in Paperback, Kindle.

PERFECT SIGHT

If you learn the fundamental principles of perfect sight and will consciously keep them in mind your defective vision will disappear. The following discoveries were made by Dr. Bates and his method is based on them. With it he has cured so-called incurable cases:

1. Many blind people are curable.
2. All errors of refraction are functional, therefore curable.
3. All defective vision is due to strain in some form.
4. Strain is relieved by relaxation.

You can demonstrate to your own satisfaction that strain lowers the vision. When you stare, you strain. Look fixedly at one object for five seconds or longer. What happens? The object blurs and finally disappears. Also, your eyes are made uncomfortable by this experiment. When you rest your eyes for a few moments the vision is improved and the discomfort relieved.

Have some one with perfect sight demonstrate the fundamental principles contained in Dr. Bates' book, "Perfect Sight Without Glasses." If the suggestions and instructions are carried out, and glasses discarded, it is possible to improve the vision without personally consulting a physician.

"Perfect Sight Without Glasses" will be sent C. O. D. on five days' approval. Price, $5.00.

Central Fixation Publishing Company
383 Madison Avenue, New York City

THOS. B. BROOKS, INC.
NEW YORK

MYOPIA NUMBER

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. IX | NOVEMBER, 1924 | No. 5

Eye-Strain During Sleep

The Cure of Myopia
By W. H. Bates, M.D.

Stories from the Clinic
57: Cases of Myopia
By Emily C. Lierman

Thanksgiving Fairies
By George Guild

El Uso Natural De La Vision
(The Natural Use of Vision)
By R. Ruiz Arnau, M. D.

The Acrobatic "F"
By Emily A. Meder

Fine Print
By W. H. Bates, M. D.

Report of the October Meeting

Questions and Answers

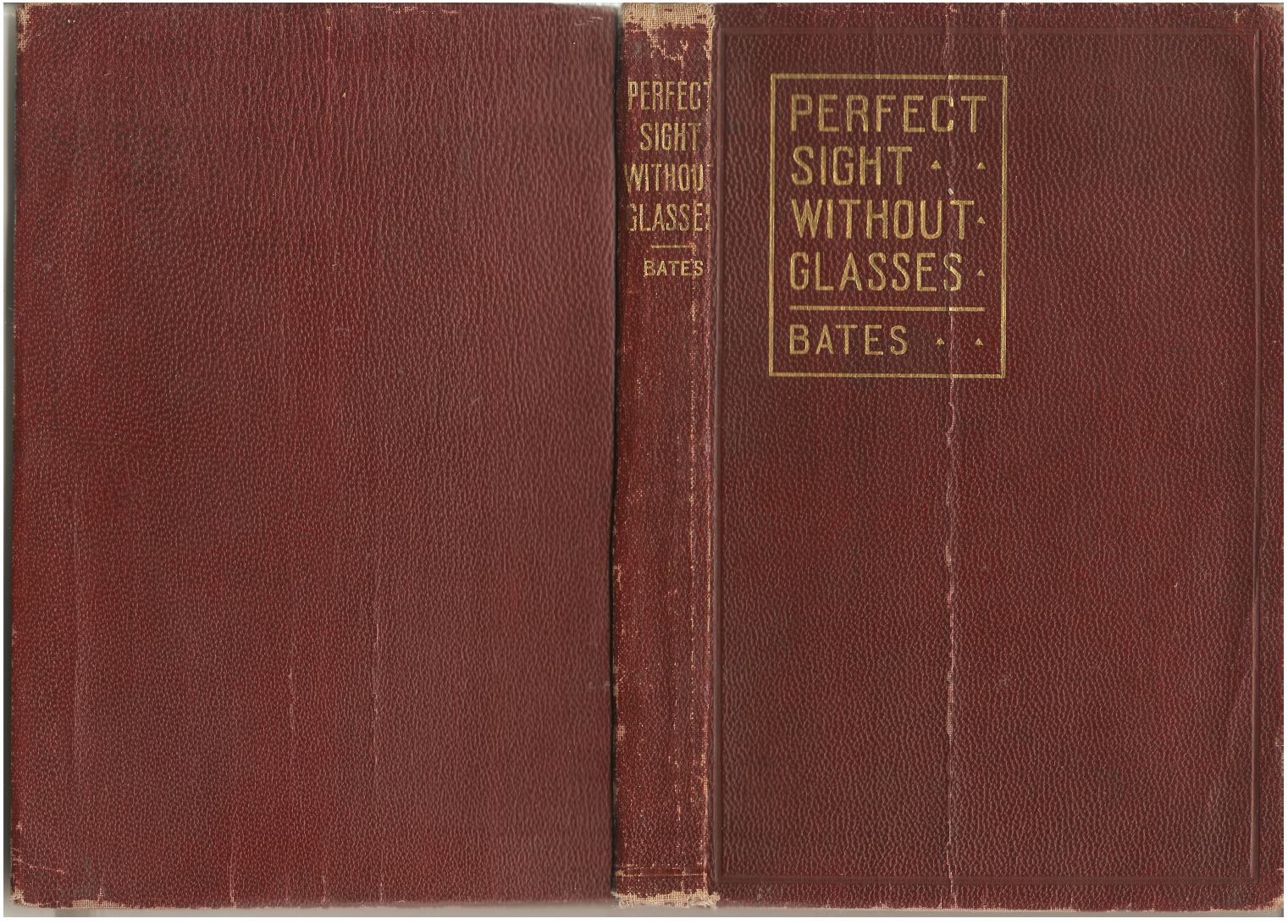
$2.00 per year | 20 cents per copy | Back numbers 30 cents

Published by the CENTRAL FIXATION PUBLISHING COMPANY
383 MADISON AVENUE NEW YORK, N. Y.

Entire magazine collection - 132 issues free at;
GoogleBooks, Archive.org and www.cleareyesight-batesmethod.info.

PERFECT SIGHT WITHOUT GLASSES

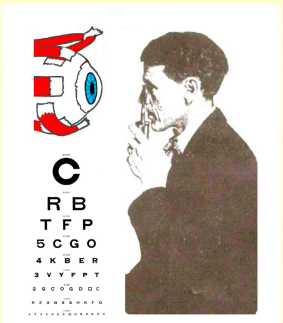
BATES


PERFECT
SIGHT
WITHOUT
GLASSES
BATES
PERFECT
SIGHT
WITHOUT
GLASSES
BATES

The Cure of Imperfect Sight by Treatment *Without Glasses*

By

W. H. BATES, M.D.



Dr. William H. Bates, Ophthalmologist, M.D. Eye, Ear, Nose & Throat. Discovered the Principles of Eye Function-Natural Eyesight Improvement.

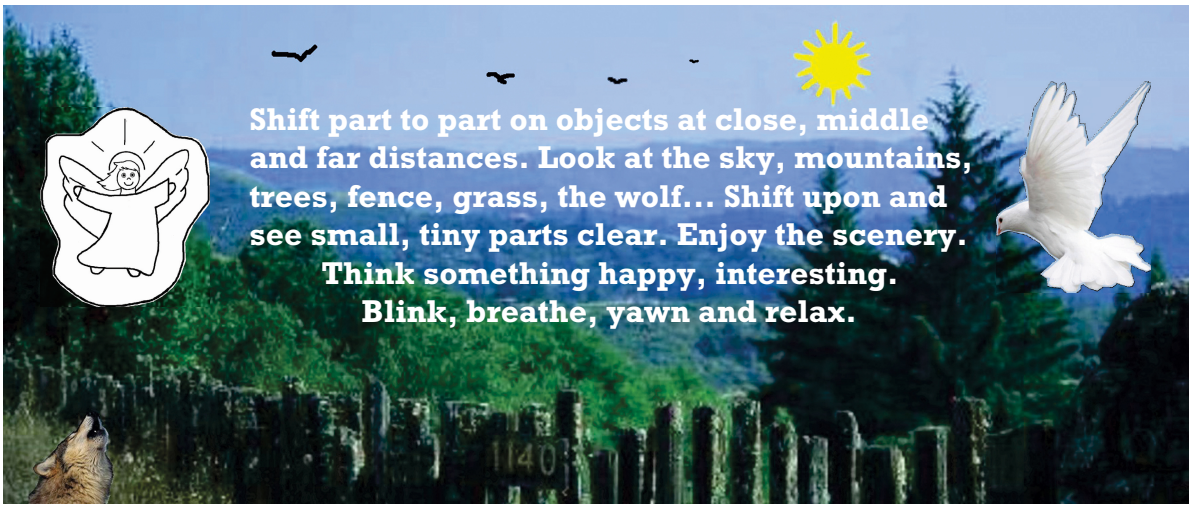
CENTRAL FIXATION PUBLISHING CO.
210 MADISON AVENUE, NEW YORK CITY

Perfect Sight Without Glasses

Advertised in Better Eyesight Magazine, Sept., 1919 Issue as;

The Cure Of Imperfect Sight By Treatment Without Glasses

Doctor Bates First Edition, Original Book



Throw Away Your Glasses and See With Your Eyes

Glasses prevent the eyes from functioning normally. They impede the progress of perfect sight and cause greater eyestrain. If you use your eyes right, glasses are unnecessary. Everyone with defective vision is doing something wrong to obtain that bad sight. Give your eyes half a chance to act naturally and the improvement will be amazing.

PERFECT SIGHT WITHOUT GLASSES, the book written by Dr. Bates, contains a detailed explanation of his discoveries, research work, and experiments, which lasted through a period of thirty-eight years. Old fallacies and theories relative to the physiology of the eye have been disproved by his facts. Instructions for self-help are included.

We shall be pleased to send this C. O. D. on approval for five days. If it does not meet your needs, you may return it and receive your check in refund.

Central Fixation Publishing Company
383 Madison Avenue, New York City

PRESS OF
THOS. B. BROOKS, INC.
NEW YORK

Use Your Eyes Not Your Glasses

No home should be without this book, THE CURE OF IMPERFECT SIGHT WITHOUT GLASSES, by W. H. Bates, M.D.

What would you take for your eyesight? Can you estimate its value?

Learn to use your eyes properly so that the defects can be remedied: not temporarily but *permanently.*

In this book all diseases of the eye are covered, and by leaving your glasses *off* and practicing the methods a few minutes a day as outlined by Dr. Bates, the results will be astonishing.

Surely your eyes are worth this much.

To avoid delay, we are sending these books C.O.D. on approval for five days. If it is not all we say it is, you have the privilege of returning it and upon its receipt in this office our check in refund will be sent immediately.

PRICE $5.00

Central Fixation Publishing Company
383 Madison Avenue, New York City

PRESS OF
THOS. B. BROOKS, INC.
NEW YORK

CONTENTS

Pg.#

Perfect Sight Without Glasses, Antique Book Covers and Advertisements, 'Shifting'. Optometrist Dr. Harold M. Peppard. Thank-You to Dr. Monroe J. Hirsch, O. D., Ph.D., Optometry Library-University of California. Copyright, Avoiding Eye Surgery, Glasses. Introduction to Better Eyesight Magazine, Magazine Covers, 1st Issue - July, 1919. Short Introduction- Dedication to Ophthalmologist William H. Bates, Picture of Dr. Bates, Emily Lierman/Bates. Thank-You; 20 Free E-Books Address. Videos, Audios, Listen to Dr. Bates on-line 132 Better Eyesight Magazine Issues.

Perfect Sight - 4 Steps, Practice Time - 8 Practices, Fundamentals - 15 Practices, Perfect Sight - 4 & 3 Practices, Instructions For Home Treatment, Fundamentals - 9, Suggestions to Patients - Snellen Test Card - 8.

Picture of Dr. Bates, One of His Medical Articles 'Myopia Prevention By Teachers'. The Fundamental Principle; Do You Read Imperfectly? Dr. Arlt - Austrian Ophthalmologist, Professor Diseases of the Eye. Internal Title 'The Cure Of Imperfect Sight By Treatment Without Glasses', Dr. Bates & Emily's Copyright, Printers from the Red, Maroon & Green Editions. “On a Tomb in the Church”.., Dr. Bates Dedication To The Pioneers of Ophthalmology. Antique Dust Cover.

Preface - A Collection of Facts and Not of Theories. Book Preserved in the Crypt of Civilization, Oglethorpe University

Dr. Bates Original Contents, List Of Illustrations, Test Card Practice, Original Big C Eyechart, Human Eye, Muscles.

Chapter 1, Introductory. Beginning of Dr. Bates Book. 1

Antique Book Covers, Advertisements, Index; Word-Page Search, End of Dr. Bates Book. Thank-You by Emily A. Bates to R. R. A., New York Times Tribute Letter to Dr. Bates After His Death in 1931. Appreciation by Rev. Dr. Daniel A. Poling from the 9th Print Edition, Picture of Dr. Bates, Definitions, Floating Specks Cause, Cure. Emily Lierman, Bates Best Training Methods, (Introduction by Dr. Bates), Natural Eyesight Improvement Treatments in Small, Fine Print. Suggestions - 12. How to Shift and See 'The Swing' of Opposite Movement on Close and Far Objects. 310

Accommodation; Lens-Eye, Old & New Theories, Facts, Information on The Bates Method. Bernarr A. MacFadden Original Physical Fitness, Natural Health Teacher, Trained with Dr. Bates. MacFadden, Bates' 1918 Book. 323

Fine Print - 'PAGE TWO' - 132 of the Best Practices-Treatments by Dr. Bates From His Better Eyesight Magazine, Many Different Cures for Every Eye, Vision Condition. Reading Fine Print *Without Glasses* Produces Clear Close and Far Vision For Life, Into Old Age 100+ Yrs., Prevents Cataracts and Other Advanced Eye, Vision Impairment. 326

Better Eyesight Magazine Final Issue, June, 1930 Cover. White Print on Black Page; Benefits-Activates the Retina, Relaxing, Easy to See, Helpful For the Blind. Descriptions of, Treatments For Various Eye, Vision Conditions. 366

More Fundamentals - 15, 'The Mind's Eye' by Edith McNamara (Memory, Imagination, Mental Pictures, Relaxation, Happy Thoughts Bring Clear Eyesight). In the Office, Helpful Hints From Correspondents. Introduction-Dedication #2 to Dr. Bates, Dr. Bates and The Bates Method's History. Practice the Old Original and Modern Methods Correct. 371

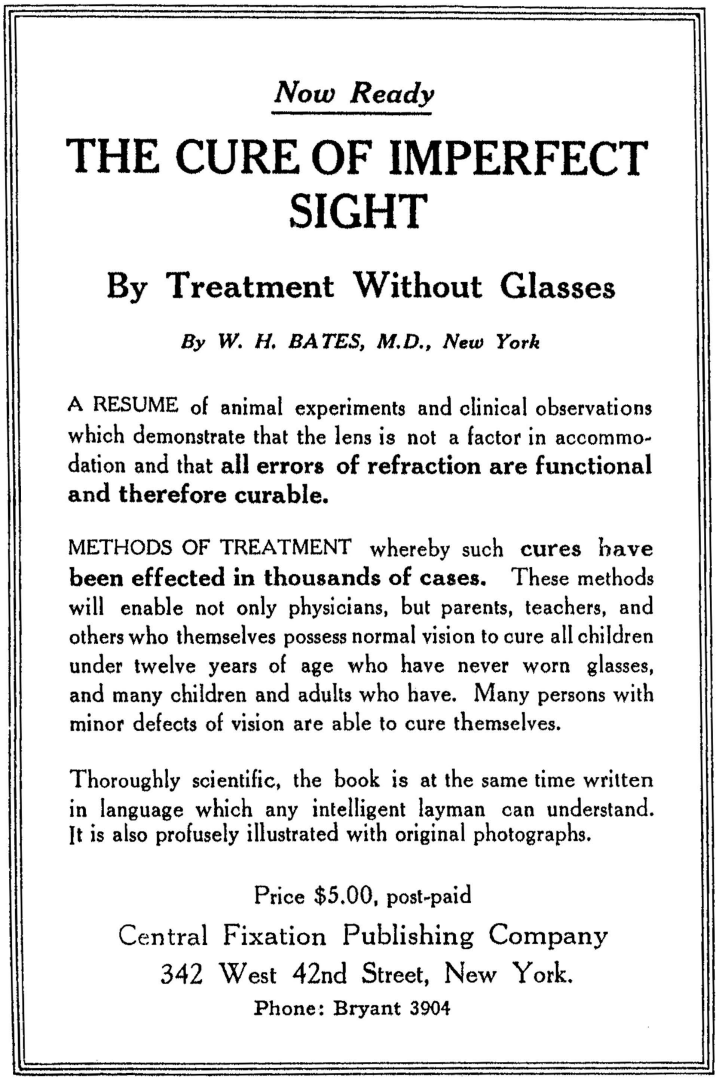
Sunning, Sun-Gazing, Sunlight on the Sclera-White of the Eye, The Sun-Glass Treatment, Cure for Blindness. Directions, Precautions. Sunglass Not Always Needed. Do It Right! Work With a Bates Method Ophthalmologist. 381

Eye Muscle Tension Causes Abnormal Eye Shape-Disrupts Focus of Light Rays in the Eyes Resulting in Unclear Eyesight. (Eyeglasses Cause, Increase These Conditions.) Picture; Vision Impairment Caused by Laser... Cornea Eye Surgery. Pictures of the Human Eye, Cornea, Iris, Lens, Retina, Macula, Fovea, Eye Muscles, Light Rays... 392

No Eyeglasses is Best! Pictures-Directions For the 10 Main Natural Eyesight Improvement Practices. Palming, Long Swing, Shifting, Nose-Feather, Tracing, Central-Fixation (Fovea-Macula Central Vision), Sunning, Memory and Imagination, More Central-Fixation. Switching-Shifting Close, Middle & Far. Basic and Secret Switching Practice For Perfect Accommodation, Convergence, Un-Accommodation, Divergence for Clear Eyesight at all distances and Strabismus Treatment. Night Vision. Better Eyesight Magazine article for Amblyopia. Pictures; Central-Fixation with Shifting. Palming, Memory, Imagination, Positive Thinking. Sunlight, Sunning. Figure Eight 'Infinity Swing' For Movement, Relaxation of the Eyes, Body, Neck, Movement of the Head With the Eyes, Activation and Integration of the Left and Right Brain Hemispheres for Clear Eyesight at all Distances-Close, Middle and Far, Equal, Perfect Clear Eyesight in the Left and Right Eyes and Balanced, Coordinated Eye Movement. Sway, Seeing the 'Opposite Swing'. 397

Eyecharts; Snellen, Directions For Testing the Eyesight and Seeing the Eyechart Letters Clear. Shifting with Central-Fixation (Central Vision), Relax to See Clear. Distance of the Chart... Eyecharts; E Distant, Big C Black and White Letters, Astigmatism Test and Removal. (Print Charts Small and Large for Close and Far Practice.) 418

This Content list is for the book's sections. See Dr. Bates Original Contents for page numbers to his book chapters.



Now Ready

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is also profusely illustrated with original photographs.

Price $5.00, post-paid

Central Fixation Publishing Company
342 West 42nd Street, New York.
Phone: Bryant 3904

'Perfect Sight Without Glasses', Original First Title; 'The Cure Of Imperfect Sight By Treatment Without Glasses'. Advertised in Better Eyesight Magazine, Sept., 1919.

This book combines the original book with the red, maroon and green cover editions. Contains additional pages, pictures, treatments and training from Ophthalmologist William H. Bates' Original *Better Eyesight Magazine, Medical Articles,* his 1918 book-course *Strengthening The Eyes* (authored with Bernarr MacFadden) and Modern Bates Method Teachers' practices, pictures. Eyecharts with directions for obtaining Clear Close and Far Vision. Strabismus, Amblyopia correction and Astigmatism, Presbyopia removal.

The book is created by photo-scan copying the original book pages to preserve the antique print from 1918 to 1940 and Dr. Bates authentic method as he taught it.

The original book size is about 5 ½ by 7 ¾ inches. The photo copied pages, pictures retain this size by 95% depending on the edition; Color, BW or Travelers Size BW. The paper-page size is increased to 8x10 - 8.5x11 to include full size eyecharts, more pictures with instructions. Print size matches Dr. Bates book. Small print is healthy for the eyes.

Extra methods, pictures, true patient stories are placed on the bottom of some of Dr. Bates pages. Pictures of antique pages from his Better Eyesight Magazine and Medical Articles contain treatments he applied in his N.Y. City Clinic. The additional training pertains to the information on that page or other natural eyesight practices. The reader may skip these and return to read them after completing the chapter or entire book.

Perfect Sight Without Glasses

By W. H. BATES, M.D.

The author of this book presents evidence that all errors of refraction are caused by strain —and cured by rest and relaxation.

The complete method of treatment is described so clearly that the reader can usually discard his glasses and improve his vision.

For sale at this office and at leading bookstores.
Price $3.00 Postpaid.

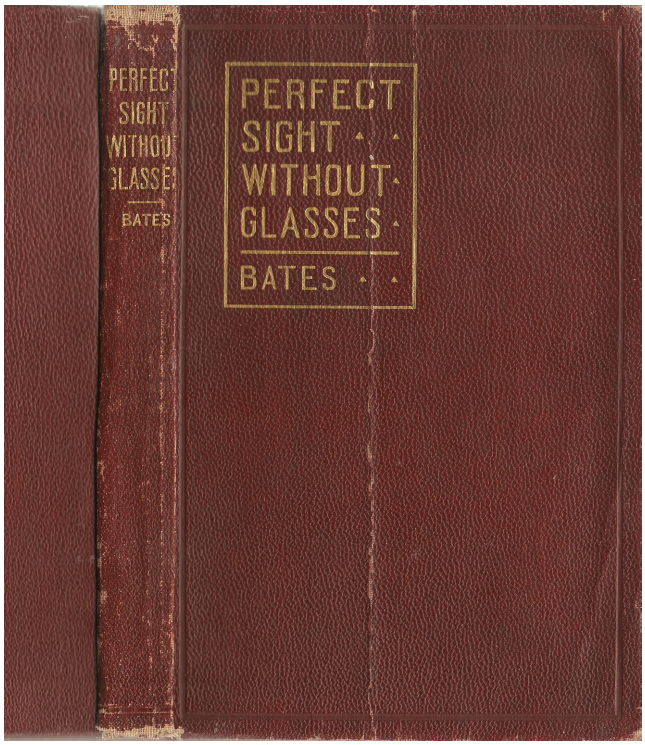
METHODS OF TREATMENT
described in
Stories from the Clinic
By EMILY C. LIERMAN

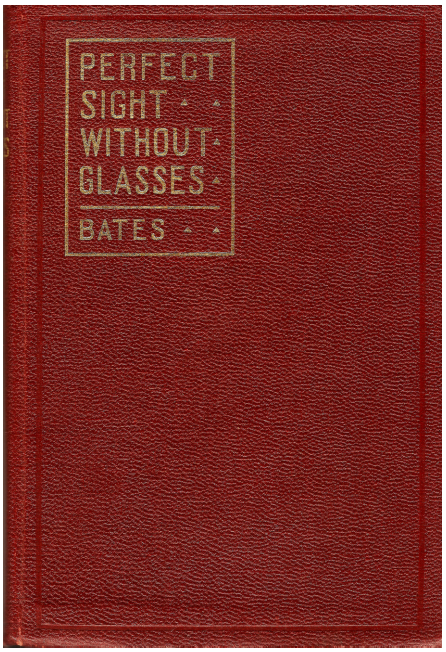
This book fully explains the author's experiences in treating clinic patients and her application of Dr. Bates' method of treatment to each individual case.

"Stories from the Clinic" is a contribution to the practice of Ophthalmology

Price, $2.00 postpaid

Central Fixation Publishing Company
383 *Madison Avenue, New York City*





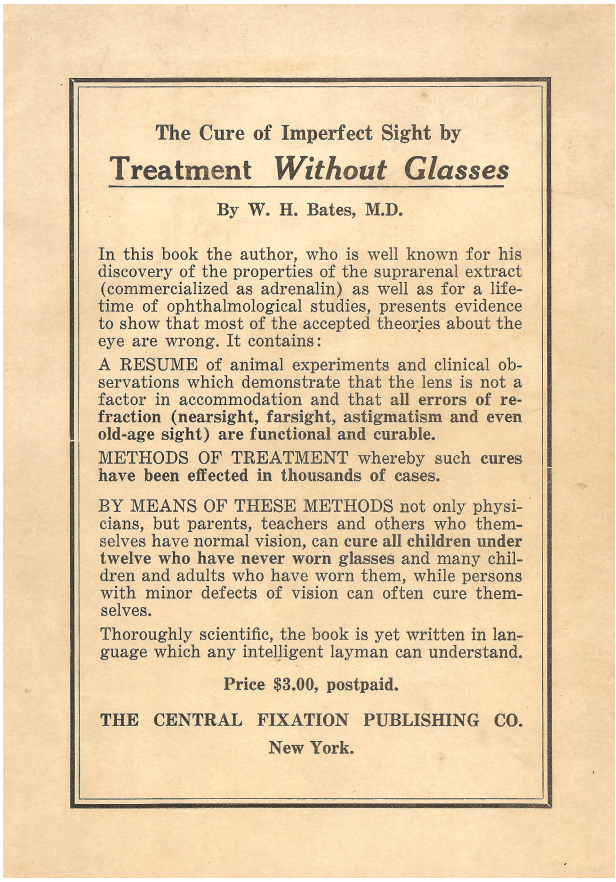
9 editions of this book were created from 1920 to 1940. A red, a darker red-maroon and a green cover. The *red* or maroon is the 1st Edition. Later editions are green. No printer listed on some red, maybe maroon. Age affects color so its hard to know if older books are red or maroon. Printers on the red, maroon, green; Press of Thos. B. Brooks, Inc., and Burr Printing House.

Some editions have different print style, page design, picture quality, dust jacket and New York City street addresses. Pg. 41; space gone in word 'In active'. A sunlight picture and article in microscopic print (pg. 195) are changed in new editions. There might be an edition with a different color or design on the cover.

On the right is a photo of a original dust jacket. >
Book was advertised in Dr. Bates *Better Eyesight Magazine* in Sept., 1919+. The 1940 Final Original Edition, 9th printing co-published by Emily A. Bates was not changed. Emily added things to the book; Crypt of Civilization Certificate, Eyechart with Instructions, Fundamental Principles of Treatment...

This new 2013-2015+ book contains all the extra pages, pictures, Dr. Bates experiments from 8 (maybe 9) editions. Additional practices by Dr. Bates, Emily A. Bates (Lierman) have been placed here from the Public Domain; 1940 final print edition of this book and Ophthalmologist William H. Bates *Better Eyesight Magazine* and Emily's *Stories From The Clinic*.

The 1943 and later edition *The Bates Method For Better Eyesight Without Glasses* by Emily A. Bates and different publishers (Henry Holt...) and other authors' versions are altered, missing many practices. Effective, essential treatments and all of Dr. Bates' experiments on the eyes, lens, eye muscles, light rays... (with pictures) proving what truly causes and *cures* unclear eyesight, cataract... have been removed. This is due to organized corrupt eye doctors, businesses that prefer to sell eyeglasses, contacts, eye surgery and drugs. They try to hide the Bates Method from the public by threatening to fine, imprison Bates Teachers. This mainly occurred after Dr. Bates death in 1931 when he was not there to be a witness, to protect his students, trained teachers and honest doctors, including his wife Emily C. Lierman, A. Bates. Read about Margaret Corbett and Aldous Huxley (picture pg. 372) 'court cases' of Bates Teachers in Los Angeles, California, New York City... Optometrist Dr. Harold M. Peppard may have protected Emily during this time.



The Cure of Imperfect Sight by

Treatment *Without Glasses*

By W. H. Bates, M.D.

In this book the author, who is well known for his discovery of the properties of the suprarenal extract (commercialized as adrenalin) as well as for a lifetime of ophthalmological studies, presents evidence to show that most of the accepted theories about the eye are wrong. It contains:

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction (nearsight, farsight, astigmatism and even old-age sight) are functional and curable.**

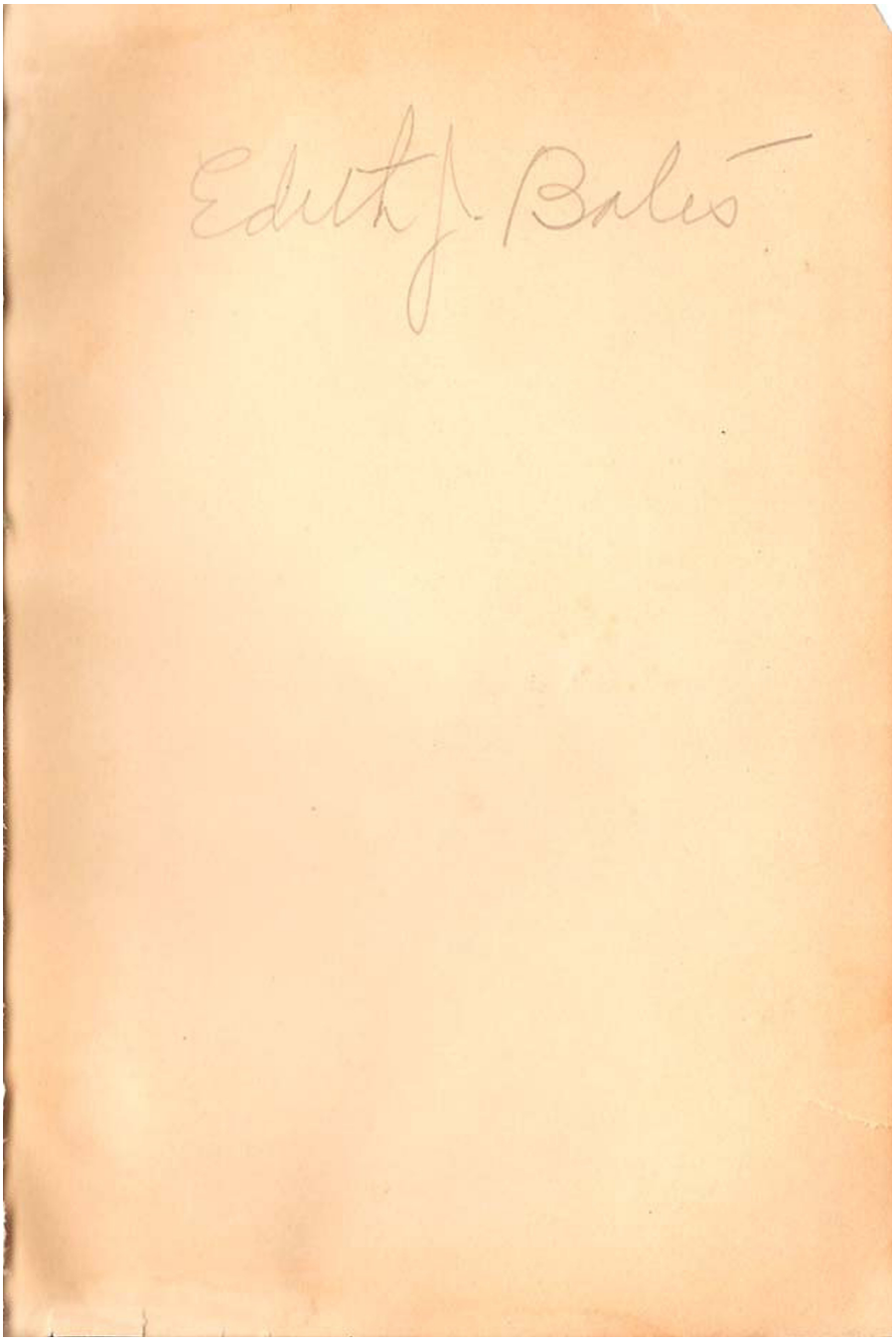
METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.**

BY MEANS OF THESE METHODS not only physicians, but parents, teachers and others who themselves have normal vision, can **cure all children under twelve who have never worn glasses** and many children and adults who have worn them, while persons with minor defects of vision can often cure themselves.

Thoroughly scientific, the book is yet written in language which any intelligent layman can understand.

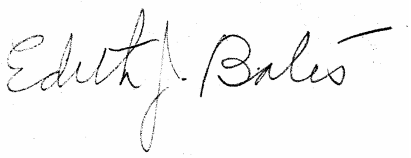
Price $3.00, postpaid.

THE CENTRAL FIXATION PUBLISHING CO.
New York.



Edith J. Bates might be a relative of Doctor William H. Bates. Her signature is from the inner first page of a used 1920 green cover edition of Perfect Sight Without Glasses.

Edith Hila Milo Bates (lived 1907-1990) is listed as a ancestor of Dr. Bates in his family tree on Ancestry.com. Edith Holmes Kitchell (1869-1891) is listed as Dr. Bates first wife, married 1883. Emily A. Bates, Dr. Bates and other relatives with their pictures are posted.



Dr. H.M. Peppard
70 Park Ave
N.Y.C.

From the Red-Maroon Cover Edition of Perfect Sight Without Glasses;

This Red-Maroon Edition was purchased from an antique store. Could be red but is worn so the color may be faded, appearing as maroon. The writing on the inside 1st page might be by Dr., Optometrist Harold M. Peppard, author of 'Sight Without Glasses' - Copyright 1936. Dr. Bates' book may have been used by Dr. Peppard for study, practice of The Bates Method.

Dr. Peppard was trained as a Bates Method Teacher by Ophthalmologist William H. Bates. He worked with Dr. Bates and Dr. Bates wife, assistant Emily A. Bates (maiden name; Emily C. Lierman) for many years. Dr. Peppard cured his patients with The Bates Method. His office was near Dr. Bates. After Dr. Bates Death in 1931, Dr. Peppard and Emily A. Bates worked together in New York City.., continuing Dr. Bates work, teaching Natural Eyesight Improvement.

Announcement by Dr. Bates and an article by Dr. Peppard in Dr. Bates' Better Eyesight Magazine;

Better Eyesight
May, 1927
Announcement

Dr. H.M. Peppard, of 71 Park Avenue, is a representative of Dr. Bates and is qualified to improve or cure imperfect sight by the Bates Method. Office hours - 9:30 to 6:00 Telephone Caledonia 4694

Hypermetropic Astigmatism
By Dr. H. M. Peppard

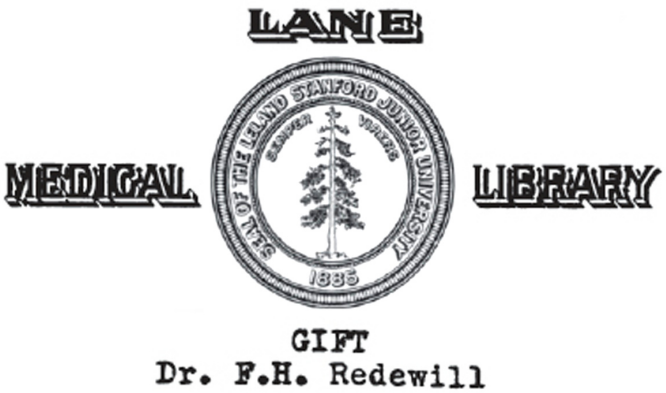
Last fall a young man presented himself to me for examination complaining of *headache, nervousness, insomnia* and *eyestrain.* He had previously had a *nervous breakdown* and said he felt as if he were going to have another. This statement was apparently correct if general appearances can be considered as an indication. The eyes were bulging with a dry, glassy appearance and the upper lid markedly retracted.
The eye examination revealed a *very hard eyeball* with 1.25 diopters of *hyperopia* with 2.50 diopters of *astigmatism* with the axis 180°. Glasses had been worn but gave little relief. The visual acuity was 20/50 for both eyes and the same in each eye.

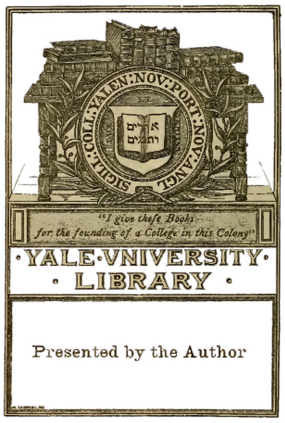
Treatment by the Bates Method was started on August fourth. *Palming, swinging, blinking, flashing* and *reading of diamond type* was used. The flashing was especially beneficial.
On August 27th, the eyes were again tested. Visual acuity was 20/15 for both eyes, 20/15 in the right, and 20/20 in the left. The hyperopia or farsightedness was not present and the astigmatism was decreased to 1.00 diopter. A few more treatments relieved the remainder of the astigmatism and the vision improved to 20/15 in each eye.
With the improvement in vision, the general symptoms cleared up. He became able to sleep, was free from headaches and was not so nervous.
The eyes felt comfortable and his entire facial expression was changed from the relaxation around the eyes. The eyes no longer were starey, but bright and moist and the blinking frequent and easy.
Six months later the eyes were in perfect condition and the patient no longer feared a nervous breakdown.

Thank-You For Preserving Dr. Bates Work

THE LIBRARY OF THE UNIVERSITY OF CALIFORNIA

GIVEN WITH LOVE TO THE
OPTOMETRY LIBRARY
BY
MONROE J. HIRSCH, O.D., Ph.D.





TRANSFERRED TO
YALE MEDICAL LIBRARY

COPYRIGHT © - December, 2012 - 2016

All Rights Reserved

Perfect Sight Without Glasses (The Cure Of Imperfect Sight By Treatment Without Glasses) - Natural Vision Improvement. By Ophthalmologist William H. Bates. Year 1920, Central-Fixation Publishing Co., New York City, USA. Reprinted Dec., 2012. IBSN; 978-1479118540 by Mary Iva Oliver (Pen Name; Clark Night) - Clearsight Publishing Co., Do It Yourself - Natural Eyesight Improvement - Original and Modern Bates Method. http://www.cleareyesight-batesmethod.info, http://www.cleareyesight.info, South San Francisco, CA, Worcester-South Boston, MA, USA. Articles, training added by Emily C. A. Lierman, Bates (Dr. Bates wife, assistant) and other doctors, teachers. William H. Bates Books, 132 Issues of Better Eyesight Magazine are included in 20 PDF E-books download. Copyright by Clark Night is for Introduction, History of Ophthalmologist William H. Bates life, his work, additional pictures added to this book, assembly and preservation of Dr. Bates book *Perfect Sight Without Glasses,* his *132 Better Eyesight Magazine Issues, Medical Articles* and other authors, doctor's copyright free, public domain books included in this collection. (Central-Fixation Publishing Co. is owned by Dr. William H. Bates.)

The author/publisher does not allow the e-books, paperbacks, videos, audios, pictures, content on our websites to be placed on other websites or your affiliates websites for download-transmission, sold or used to advertise-sell any products, services, ad clicks, unnatural methods, medical or other treatments, including eye surgery, eyeglasses, chiropractic... They cannot be attached to your books, videos, products. The books, pictures, videos, audios must not be altered. Do not create videos from them. Doctors, chiropractors did this in the past without my consent; using the books, videos to attract patients, try to sell unhealthy medical treatment, surgery. So I must post this rule.

The author allows people to copy, print the information in the e-books, websites and give it FREE to the public. People may distribute the e-books to organizations for the blind and persons that need eyesight improvement, including; the Blind-Braille-Guide Dog Schools, Friends, Family, all Libraries, Schools, Colleges, Nursing Homes, Hotels, Military Bases, Veterans, Native American Reservations... (CD, PDF, paper copies. And it must be free.) All of our books are on the website and GoogleBooks, Archive.org for 100% view and free PDF download.

I advise the public to obtain the E-books, PDF's, videos, audio books-training, pictures solely from our websites to insure they are authentic; http://cleareyesight-batesmethod.info/id148.html & https://www.youtube.com/user/ClarkClydeNight/videos Public GuestPage; http://naturaleyesightimprovement-batesmethod.com/GuestPage and Dr. Bates, Clark Night's publishers; Paperback and E-books provided by Clearsight Publishing Co., Amazon CreateSpace, Kindle, Barnes-Noble Nook, Lulu. One new publisher after 2015.

After my death; My publishers, Native Americans, persons in my will may sell the paperback and e-books by Clark Night, the books I have preserved authored by Dr. William H. Bates and other doctors, authors. *(Ophthalmologist William Horatio Bates entire family is in the will and may at present time and after my death, sell all Dr. Bates, Emily C. Lierman/A. Bates' books I have preserved. After my death they can sell all of my books and the books I preserved. This includes Dr. Bates' grandchildren, great grandchildren.., all generations.)*

See the Library Of Congress, USA under 'Better Eyesight' in Volumes. Someone preserved these years ago. Maybe Dr. Bates, Emily...

The public may distribute the E-books free including download from websites, transmission on the Internet. (Rule above still applies; no use of the books, pictures, videos... to advertise, sell unnatural products, treatments, eye surgery, glasses.., no altering the books, videos...) Sellers will continue to give a percent of book sale profits to the blind. The website will be paid for 20+ years. Persons listed in the will preserves the books, website. A copy of the website is in PDF, paperback book. If the website is not preserved; the public may copy it and publish. Please respect the original creator-website and do not alter it. *This Will on June 24, 2014 replaces all previous Wills & Testaments.*

Disclaimer and Directions

A disclaimer is necessary to protect my right to teach Natural Eyesight Improvement and prevent lawsuits... from people that want to prevent the public from learning how to cure their eyesight naturally; The author, publisher, (Clark Night, Mary Iva Oliver, Clearsight Publishing Co.) is not responsible for the reader's use, misuse, misunderstanding of the information in the books, videos, audios, website and GuestPage. The author does not claim/promise to diagnose, treat, cure eye-eyesight, medical problems, disease. The reader, student agrees that she/he does not have a personal or professional relationship with the author. The author is not an eye, medical, mental health doctor. All training consists solely of Educational Information for improving the clarity of eyesight and health/function of the eyes, mind, body *combined with* direct communication with your eye doctor, medical doctor and eye, eyesight, eyeglass prescription monitoring by the eye doctor. Always obtain a complete eye exam by an ophthalmologist and medical exam by a medical doctor. Show this book and the *Directions, Disclaimer* PDF (link address below) to the doctor if he/she is not familiar with the Bates Method. Give him/her the website link for all Dr. Bates books.

Read entire information on the following pages and end of this book and in the PDF on the main Copyright-Directions-Disclaimer webpage; http://cleareyesight-batesmethod.info/id110 This is long but it's worth the read; it also describes how to detect, avoid unnatural-harmful methods, false teachers and lists things to avoid (surgeries, contact lenses, eyeglasses...) when practicing Natural Eyesight Improvement;

Be aware of conflicting results if the eyes have had surgeries, any other unnatural treatment. Do not wear contact lenses. Avoid eyeglasses. Glasses cause and increase cataract, detached retina, glaucoma, astigmatism, blurry eyesight and other eye-eyesight problems. Strong prescriptions increase this effect. No glasses is the healthiest way to go. If glasses are needed; 20/40 reduced, 'weaker and weaker' eyeglass lenses can be used temporarily, only when needed for safety when driving, work... as the eyesight is improving with practice of the Bates Method. This is described throughout this book. See page 81, the entire chapter; WHAT GLASSES DO TO US. *(Extra instructions are placed on the bottom of Dr. Bates pages in Navy print.) Read the directions in the E-books and website to learn how to safely and legally reduce your prescription, find your correct P.D. (placement of the center of the left and right eyeglass lenses in front of the eyes' pupils), obtain equal strength-weaker left and right eyeglass lenses until you achieve clear eyesight and permanent freedom from glasses; http://cleareyesight-batesmethodinfo/id36.html http://cleareyesight-batesmethod.info/id14.html http://cleareyesight-batesmethod.info/id4.html*

The eyesight improves easier, faster and the eyes remain healthy when eyeglasses, contacts are avoided. The mind, eyes fully relax. See a Behavioral Optometrist, Ophthalmologist and on-line mail order Opticians for affordable weaker eyeglasses.

Warning; **Eyeglasses, contact lenses, prisms, all prescriptions *cause and increase;* cataract, glaucoma, detached retina and vitreous, macula degeneration, blurry vision (myopia, farsight...), astigmatism and many other eye-vision problems. If you have any advanced eye-vision condition, a very strong prescription; it is mandatory to stop use of all eyeglasses, all prescriptions. This includes 20/20 prescription, stronger prescriptions and reduced weaker eyeglass prescriptions and all forms of magnifier glass. All impair the eyesight, eyes' health and can lead to blindness.**

Eyeglasses can produce a mental effect; lock in unhappy memories, feelings. This keeps the negative thoughts, emotions in the mind and spirit. This affects the body-mind's health, ability to completely relax and lowers the eyesight. Relaxation, positive thinking and a free mind that can grow, learn, create brings clear eyesight. Eyeglasses are destructive on many levels to people of all ages, especially children. Dr. Bates states that eyeglasses, sunglasses, tinted, colored lenses impair health of the eyes and mind. Stopping use of eyeglasses can cause old unpleasant thoughts, feelings and fears to come to the surface. Face them, release the negative. Think in a new, positive way. Removing glasses, releasing negative thoughts, emotions and learning to *relax* and *shift* is often all that is needed to return to clear eyesight. EFT, energy balance, alignment is helpful.

No contact lenses! Contact lenses must not be worn before, during, after practicing Natural Eyesight Improvement. Contacts will not fit the eye, cornea as they change to normal healthy shape and function with practice of Natural Eyesight Improvement. The contacts can scrape, infect and scar the cornea. This can occur even without practice of Natural Eyesight Improvement because the eye, cornea naturally change shape on their own due to relaxation level and for light ray refraction 'focus' when looking close and far and during sleep. Contacts lenses, eyeglasses cause mind and eye muscle tension resulting in an abnormal eye-cornea shape. Stop use of contacts before practicing Natural Eyesight Improvement and do not return to them. Contact lens drops, cleaning solutions contain unhealthy ingredients and have caused cornea-eye infection, parasites.., blindness. Parasites, germs can also exist in drinking, shower... water and get stuck under a contact lens.

Natural Eyesight Improvement normalizes, corrects the eyes' pressure, improves eye health. If there is any eye condition, glaucoma, cataract, surgery.., you are taking drugs, eye drops for glaucoma or other eye conditions to lower or raise the eyes' pressure or any other drugs, treatments for any eye-eyesight condition; ask your eye doctor's advice first before practicing The Bates Method-Natural Eyesight Improvement. Eye drops, drugs, the drug's strength, amount to take, un-natural treatments for eye pressure, other treatments might need to be changed, reduced, discontinued. If the doctor allows the patient to practice Natural Eyesight Improvement; the doctor must monitor the eyes-eyesight, eye pressure and other eye conditions, functions as Natural Eyesight Improvement is practiced.

Natural Eyesight Improvement changes the eye, cornea, lens, retina... back to normal healthy shape and function. If the eye, cornea, lens, retina... has had surgery, if any treatment has been applied to the eyes; check with your eye doctor first before applying Natural Eyesight Improvement to be sure the surgery, treatment and Natural Eyesight Improvement do not conflict, interfere with eachother, with the eye shape, state the doctor has set, fit the surgery, treatment to. Natural Eyesight Improvement might help the surgery, eye to heal or it might work against the surgery because; Natural Eyesight Improvement brings the eye, cornea, lens, retina, vitreous... to normal shape, but; the surgery may have been done to place, keep the eye in an abnormal shape, a shape it was in before the surgery or a new abnormal shape. Example; detached retina surgery done on an eye that is abnormally lengthened due to very tense outer eye muscles, advanced nearsight *myopia* (caused by many years wearing minus eyeglasses) may act differently if the patient practices Natural Eyesight Improvement and returns the eye to normal round shape, normal eye pressure, normal fluid, circulation flow, normal retina shape... Will it help strengthen the surgery and heal the eye, get the retina back into correct placement or impair the surgery, treatment, pull the surgery loose and detach the retina? Even if the eye's shape is normal, the doctor might tell the patient to wait, do not practice Natural Eyesight Improvement until the surgery has fully healed. Natural Eyesight Improvement gets the eyes, eye muscles, lens relaxed and moving. After retina, cataract or other surgery, the doctor might have the patient wait for the retina, lens, eye to completely heal before allowing practice of Natural Eyesight. Example; *Switching Close and Far*. See pg. 404. Switching moves the eye and lens, returns them to normal shape for close and far vision. It may or may not interfere with the surgery. Inversion, trampoline and other antigravity, physical action exercises might interfere with 'break' eye, retina, lens... surgery. (Detached retina can also occur from tense outer eye muscles causing a shortened eye shape due to many years wearing close vision farsight, reading 'plus' eyeglasses.)

Same warning for eye cornea laser surgery, other cornea, eye surgeries and some cataract surgeries, including artificial eye lens implants containing an eyeglass prescription. This places a permanent prescription inside the eye. All surgeries that place a prescription in the cornea or eye for nearsight (myopia), farsight, presbyopia, astigmatism, bifocal... cannot be changed if the eyesight improves with practice of Natural Eyesight Improvement, or if the eyesight becomes more impaired without practice. (Prescriptions are addictive, cause more eyesight impairment.) Eyesight will be unclear; like trying to look through an incorrect, too strong or too weak eyeglass prescription, a prescription that is locked inside the eye by the surgery. Only more surgery can change an eye, lens implant prescription and all surgery has risks.

Doctors can place an artificial lens replacement without a unnatural prescription in it into the eyes after cataract surgery. This enables the person the option of wearing eyeglasses for one distance or practicing Natural Eyesight Improvement. An artificial lens can be set to the eye's *natural* lens focus. Patients are given the option of a close or far lens focus. Dr. Bates states the eye can lengthen like a camera to accommodate for clear close and reading eyesight without assisted accommodation by the lens. So; opting for far focus in the artificial lens is best. All distances at and beyond about 20 ft. will be clear. *Be sure the lens' focus is natural, exactly as a normal healthy lens-eye's refraction.* No myopia, farsight, multi focal, presbyopia, bifocal, mono vision, astigmatism... prescription in the artificial lens. The eyeball accommodates *lengthens* a specific amount for each distance at about 19 feet and closer; more for each closer distance and most accommodation occurring at the closest reading distance. Dr. Bates states the eye can do this on its own without the lens adjusting it's shape for close distances. Ask a Bates Method eye doctor's advice.

The present modern artificial lens cannot change shape 'accommodate, un-accommodate'. So doctors set it to one distance. Far eyesight will be blurry, lens un-accommodation cannot occur if you choose the close, reading vision focus artificial lens setting. If you choose the far focus; the eyeball could be able to compensate for the artificial lens by accommodating *lengthening* for clear close and reading distances eyesight. Dr. Bates proved the eye can accommodate without a lens. See chapter IX - page 89, 96. And pg. 323. He stated; *the lens does not accommodate. The lens is set only for far focus. Only the eyeball accommodates for close vision*. The artificial lens far focus must be *completely natural* as the normal eye-lens far focus, an eye with clear eyesight. No eyeglass prescription in it. Then you can use Natural Eyesight Improvement if needed.

If an eyeglass prescription is placed in the artificial lens it will be as wearing addictive eyeglasses, *causes-increases vision impairment*. Soon the eyes will not see clear through the lens; it acts as a *too weak* eyeglass prescription. Only more surgery can change it. If Natural Eyesight Improvement is used and the *vision improves*; the artificial lens with prescription will be *too strong* resulting in unclear eyesight.

In the old days some people with no replacement lens saw clear without the lens. In later years a real human eye's donor lens was tried; it contained the lens-eye's natural focus and can change shape to accommodate for clear close eyesight and un-accommodate for clear far eyesight, if attached correct, is the correct size for that eye. It may have been placed into the original lens capsule or the entire lens implanted.

Modern doctors state the eye and lens change shape, work together when adjusting focus of light rays for clear eyesight at close and far distances. Doctors are working on creating an artificial lens that can change shape for clear focus at all distances same as a natural lens. Note; plastic is toxic. Hopefully the doctors will find a healthy, natural substance. Food based, not altering DNA? Maybe grow a real human lens from your own or another person's healthy cells, DNA with a perfect movement, focus 'refraction' of close, middle and far light rays.

The Bates Method, good diet, avoiding drugs CAN reverse cataract. Work with a Bates Method eye doctor to cure the eyes without surgery.

Avoid elective cornea surgery and cornea prescription implants. Cornea surgery, lasik... impairs the cornea's health and light refraction, use of light. Many side effects; blindness, pain, blurry vision, astigmatism, glare, halos, loss of night vision. The weakened cornea is easily injured. The surgery IS an eyeglass prescription; is addictive, impairs the vision. Cornea surgery destroys the eyes' natural tear production resulting in lifelong monthly prescriptions for eye drops and 'special kits'... All eyedrops are unhealthy, addictive, impair the eyes natural tear production.

More surgery on the cornea includes a high risk of injury, it further impairs the cornea's health, structure, function, weakens it, increases sensitivity to light, impairs use of, function with light. Read more cornea surgery side effects in our E-books and on the FDA's website.

I have communicated with Natural Eyesight Improvement students that had; cataracts, glaucoma, holes and fluid leaking in the eyes' retina, blood vessels, retinitis pigmentosa, cornea injury, other conditions. They have obtained perfect eye health and clear eyesight from practicing Natural Eyesight Improvement-*The Bates Method*, stopping use of eyeglasses, contacts, sunglasses and by working with a Bates Method Ophthalmologist. People have restored clear eyesight after some forms of unsuccessful eye surgery and eye muscle surgery, but; always check with an eye doctor and honest, true Bates Method teacher first. Choose an experienced Bates Method Natural Eyesight Improvement Behavioral Ophthalmologist, Optometrist, teacher with many excellent patient references. Choose doctors that prefer natural health treatment, prefer to teach Natural Eyesight Improvement and discontinue use of eyeglasses, keep the eyes healthy and avoid eye surgery, drugs. Avoid eye doctors selling laser and other eye cornea surgeries, drugs that are not needed, unnecessary lens removal/surgery, eyeglasses (especially stronger and stronger over-corrected eyeglass lenses), addictive astigmatism sections in the glasses, bifocals, multi-section, multi-focal, mono-vision lenses, tinted, colored, UV blocking... lenses, sunglasses, contact lenses, ortho-keratology, ortho C... and all types of eyeglasses.

Students that decided to return to wearing glasses have had a relapse and worsening of their condition. Vision cannot be cured with glasses.

Children - read/use the books, websites, videos, audios, all content only with direction of, supervised by parents and a Bates Method eye doctor. Children and adults; do not us the Sunglass (Burning Glass) and other methods that are listed for application only by an experienced Bates Method Ophthalmologist. If in doubt about how to apply a method; ask a Bates teacher and Bates Method eye doctor. For more information, extra modern training; read Dr. Bates, Clark Night's *Better Eyesight Magazine Illustrated with 500 pictures* and the other free E-books on the website. Parents have used Bates Method home treatment to cure their children's eyesight. Children have cured their parents!

An experienced eye doctor can detect health of the eyes and body by examining, looking at and into the eyes. Blood pressure, sugar levels, injury, stroke and many other conditions are reflected in the eyes. Health problems can be detected in an early reversible stage. A neck and spine injury produced by a dishonest chiropractor caused my eyes' iris to change from green to light greenish-yellow. After the neck healed the iris returned to green. A eye doctor experienced in *Iridology* can determine health of organs, systems in the body. See the story of Ignatz Von Peczely, physician. He cured an injured owl and during treatment noticed that the owl's eyes, iris were altered when the bird was sick, injured. The eyes, iris returned to normal as the bird's health healed. Note a darkness 'partly vacant' look in a person's eyes months before death.

Retinoscopes

Part of a Patient's Article in Dr. Bates' Better Eyesight Magazine in March, 1920 - How I Was Cured By Victoria Coolidge;

After making a careful examination of my eyes, Dr. Bates asked me what was the lowest line that I could read on the test card. I found that I could read the thirty line at a distance of fourteen feet. Then he asked me if I could see anything on the line below. I said I could see the hollow square. Then he directed me to close my eyes, remembering how the square looked, I was able to do that, and he next directed me to look at the blank wall, still remembering the square; while I was doing so, he examined my eyes again with a retinoscope and found them normal. When the strain was removed from my eyes by remembering the square perfectly and looking at the blank wall without trying to see anything, my vision became normal. The impossible had evidently been accomplished. For a few moments, at least, the lopsided eyeballs with their consequent errors of refraction had been miraculously rounded out. Dr. Bates now asked me to close my eyes, and then left me for about fifteen minutes. When he returned, he handed me one of his professional cards and asked me if I could read anything on it. It seemed to me, I remember, a very foolish question because I had previously told him that I could read nothing without glasses. A newspaper looked like a big gray blur, and the harder I tried to see it the more blurred it became. However, I took the card and tried to read it, but, as I expected, without success. So he asked me to close my eyes again, this time covering them with the palms of my hands, and thinking of the blackest thing I could remember, which happened to be black paint. I did this for perhaps twenty minutes. After this he gave me the same card again, and directed me to hold it close to my eyes, about six inches, and to look alternately at the top and bottom of the letters. Much to my amazement and joy, a "B" came out clearly enough for me to recognize it. I kept on in this way, occasionally closing my eyes, until I could see "Bates," "Dr. W. H. Bates." and finally the telephone numbers printed in small type. I felt as if I were in a dream, or as if I must be someone else. I lived in the clouds for the rest of the day, but somehow managed to get in some palming and some practice with the Snellen card. The next day I did better, and I have kept on improving ever since. The best of it is that every gain is permanent. Dr. Bates told me that I would never have to wear glasses again, but I kept them near me for two or three weeks in case of emergency, just as Dr. Manette, in Dickens' Tale of Two Cities, used to keep his shoemaking tools and bench at hand in the event of his relapsing into his disordered state of mind. I never had to use them, however, and about six months ago I sold them for old gold. My vision is now 20/20 in a good light and 20/30 in any light, and I can read diamond type at six inches.

Avoid Un-Natural, Harmful Eyesight Methods, Dishonest Teachers

There are dishonest teachers, authors altering Dr. Bates original books, method by adding unnatural practices that impair the eyesight, eyes' health. Example; the harmful cataract, detached retina, astigmatism... producing 'Plus Lens Method'. (Also called Anti-Corrective Lenses.) It consists of forcing the eyes to look through blurry, incorrect, *too strong* close eyesight reading eyeglass + prescriptions. Avoid this! The method is addictive, it causes myopia, presbyopia, farsight to develop. It forces the ciliary-lens muscle and other inner, outer eye muscles and the lens to become stiff, immobile. Circulation in the eye is lowered, health of the eyes, lens is impaired. The eyes-lens' natural refraction, movement is blocked 'frozen'. Tense outer eye muscles press on the eye altering its shape, causes tension in the eye, retina, lens. Bleeding in the retina, blind spots develop. Notice people that wear stronger and stronger reading glasses develop cataract and are then sold surgery. All eyeglasses, - minus and + plus lenses, prisms, astigmatism... lead to addiction to stronger eyeglasses, cataract, detached retina, glaucoma and other eye problems. Also avoid the plus lens method's eye stretches; forcing the eyes to look hard to the far left, right, up, down... and *not* moving the head with the eyes. This sprains the eye muscles, causes tension in the eyes and eye, head, neck muscles resulting in injury to other parts of the eyes, torn blood vessels, injury-detachment of the vitreous, retina. The tense eye muscles cause astigmatism, unclear vision, headache. Cataract, glaucoma... are also a side effect of drugs taken for certain medical and eye conditions. Eyeglasses increase the risk.

Another method to avoid is Artificial 3-D Fusion eye exercises. (Autostereogram, single-image stereogram, SIS, magic eyes pictures...) It creates an optical illusion of depth, distance. It consists of staring straight ahead into space before or beyond 2 objects that are placed on the left and right sides of the face-eyes (in the eyes' peripheral field) to form an illusion of a 3rd merged object of the 2 objects in front of the face between the left and right eyes. The object is not truly in the central field. This method is not natural. It blocks, impairs central-fixation, eye shifting, relaxation and normal eye-brain function. Staring is a main cause of unclear eyesight. This is not a one size fits all method! Only a Behavioral Optometrist, Ophthalmologist can apply the Artificial 3-D correct. It must be done a specific way for each individual person, their eye and brain-body condition and used only if absolutely necessary after first trying The Bates Method which is a safe, effective, truly natural method to correct strabismus. The Artificial 3-D method is often not needed when the Bates Method alone is practiced. Correcting posture of the head, neck and spine, applying brain hemisphere balancing can correct wandering, crossed eyes. The artificial 3-D pictures are amusing but they can cause strabismus, impair eye movement, cause unbalanced-uneven eyesight in the left and right eyes, double vision, astigmatism, blurry eyesight and impaired convergence, divergence, accommodation, un-accommodation when looking at close and far distances; because the false 3-D disrupts the way the brain, left and right hemispheres, visual cortex, nerves work with the eyes, eye muscles, retina, lens, depth, distance perception... 3-D video games, TV's, computer screens, electronic readers, phones produce another form of unhealthy artificial 3-D.
Practice of the Bates Method can help reverse impairment of the visual system, eyesight that the artificial 3-D has caused.
(Avoid chiropractors. Read about dangers of chiropractic in the E-books, YouTube Videos; it can cause stroke, impair eyesight, hearing...)

People selling Dr. Bates, Emily's books, his Better Eyesight Magazine for over $500.00 tried to get our copy of Dr. Bates paperback, Kindle, PDF Better Eyesight Magazine, books and the free Better Eyesight Magazines on our website, GoogleBooks unpublished. We had to prove copyright, public domain three times. The assembler, illustrator of this book was attacked though computer hacking and other ways ten times by people trying to prevent this book and Dr. Bates Original Antique Better Eyesight Magazines from being published for a lower price than they sell for. They continue to try to delete our bookstores, website and YouTube videos. *Dr. Bates magazines, books belong to the public!*

Clearsight Publishing Co. posts the truth about these dishonest teachers, authors. Our books will never contain un-natural, harmful treatments, methods. The books include essential modern instruction for clarity, safety, perfect practice. Our mission is to preserve Dr. Bates genuine work, publish *True* Natural Eyesight Improvement for clear eyesight and healthy eyes at all ages; infant to over 100 Years.

Clearsight Publishing Co. keeps Dr. Bates book prices low. Black & white copies of the color are created for a reduced price so all people, regardless of financial level have access to Dr. Bates Method. A color, printable PDF E-book copy of this book in 'King-Size' version with more teachers, training, pictures and 20 E-books are FREE at; www.cleareyesight-batesmethod.info *Training is always free to the blind.*

If you have read this book or the free E-books; please teach it, help other people learn The Bates Method and avoid unclear eyesight, cataract, other eye-eyesight problems, addiction to eyeglasses and unnecessary eye surgeries.

Hadley - Ten years of service

Author Clark Night provides Free Natural Eyesight Improvement Training to the blind, visually disabled by Phone, Skype.., in Person, E-Books and Audio-Video. Part of the profits from paperback, Kindle, Nook book, video, audio sales is given to the blind, partially blind, Guide Dog Schools; 'The Seeing Eye' - *Morris Frank and his dog Buddy*, 'Guiding Eyes For The Blind' and 'Perkins School For The Blind'. >

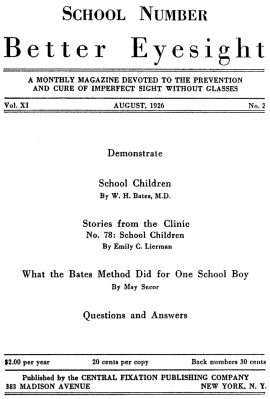
Read *First Lady of The Seeing Eye* for Buddy and Morris' training, life experience, creation of the Guide Dog School. Free training in the book; Learn directly from Morris, Buddy and their Guide Dog Teachers Mrs. Dorothy Eustis, Jack Humphrey and others. The method originated in Germany, to Switzerland and then Morris and Buddy brought it to the USA; first schools were started in Nashville, Tennessee, Morristown, New Jersey. Ophthalmologist W. H. Bates was born in New Jersey!
The *First Lady of The Seeing Eye* original book has been out of print for a long time. People might be working on getting it back in print.

http://www.cleareyesight.info/id73

The Perkins Institution for the Blind. South Boston, c 1840
Courtesy Boston Public Library Print Department.

Donation receipts, yearly records available to the public.

This Book and Dr. Bates 132 Better Eyesight Magazine Issues are Preserved by Eye Doctors, Bates Teachers



SCHOOL NUMBER

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. XI AUGUST, 1926 No. 2

Demonstrate

School Children
By W. H. Bates, M.D.

Stories from the Clinic
No. 78: School Children
By Emily C. Lierman

What the Bates Method Did for One School Boy
By May Secor

Questions and Answers

$2.00 per year 20 cents per copy Back numbers 30 cents

Published by the CENTRAL FIXATION PUBLISHING COMPANY
383 MADISON AVENUE NEW YORK, N. Y.

Ophthalmologist William Horatio Bates Better Eyesight Magazine and books contain the true principles of the eyes' function, Natural Eyesight Improvement, The Bates Method. Taught directly from the eye doctor that discovered this healthy effective practice. Perfects function of the eyes, eyesight, mind and body (Visual System). An independent 'Do It Yourself' home study course. 11 years of doctor-patient natural eyesight cures.

Dr. Bates magazines and books (in their original, unedited, antique print from the 1900's) were destroyed, hidden from the public by corrupt eye doctors/surgeons, the optical industry for many years after Dr. Bates death. Most eye doctors prefer to sell eyeglasses, eye surgery, drugs and hide Natural Eyesight Improvement from their patients. Honest doctors who tried to teach, preserve the Bates Method, Dr. Bates work were outcast, risked losing their medical license. Dr. Bates worked to prevent this during his lifetime. After Dr. Bates passed away in 1931; Emily A. Bates, Bates teachers, students and a few honest eye doctors (Dr. Harold M. Peppard...) preserved Dr. Bates original 'Better Eyesight Magazines', book 'Perfect Sight Without Glasses' and 'Medical Articles', hid them from eye doctors, the optical industry in order to prevent their destruction. Dr. Monroe J. Hirsch preserved Dr. Bates work in the University of California Optometry Library. They are also at the Library Of Congress in the U. S. More optometry, ophthalmology college libraries might preserve Dr. Bates magazines, books but this fact is not advertised. (In later years people made photocopies, PDF E-books, then converted to paper books.)

Bates Method teachers were taken to court due to eye doctors trying to stop them from teaching. See cases of Margaret Corbett and famous writer Aldous Huxley (Brave New World). They won the right to practice, teach and preserve The Bates Method! Huxley was saved from blindness, his eyesight restored by Margaret Corbett teaching him how to apply the Bates Method. He then wrote 'The Art of Seeing'.

Jealous people attacked him when he used a magnifier glass for a moment to read a paper in public one day. He was almost blind before the Bates Method! Most all of the time he didn't need the glass. (Nervousness, trying to see when under pressure, stress, people working against you, hoping you will fail can temporarily lower the eyesight. This causes a lot of false eye exam results, unnecessary eyeglass prescriptions.)

As time went on natural cures became popular, the public realized the harm that eyeglasses, drugs, certain eye surgeries (elective cornea laser...) cause. Public demand, true freedom of the press on the Internet made it safe for Dr. Bates magazines, books to be returned to the public without fear of imprisonment, fines... The Alexander Technique by Frederick Matthias Alexander (endorsed by Dr. Bates), massage, myofascial release of muscle knots in the shoulders, neck, back, body, movement and relaxation... methods combined with Dr. Bates training.

There are more honest eye doctors teaching Natural Eyesight Improvement. Opticians, optical businesses work with Bates Method Behavioral Ophthalmologists, Optometrists, Natural Eyesight Improvement teachers and students to provide low cost, weaker and weaker reduced eyeglass prescriptions (used temporarily, only if needed for safety; driving, work...) as the Bates Method student reverses his/her eyesight back to perfect clarity with practice of Natural Eyesight Improvement. They obtain 20/20 and clearer eyesight, freedom from eyeglasses. (Unfortunately there are many eye doctors, medical... doctors, phony healers posing as Bates Method teachers. They are not true Natural Eyesight teachers. They teach unnatural methods that impair the eyesight, eyes' health, sell eyeglasses and eye surgery. Avoid them.)

Ninety-five percent of all Natural Eyesight Improvement teachers do not provide their students access to Dr. Bates original magazines, books. They hide their information, source of knowledge so they can charge a high price for training, 'hundreds, thousands of dollars' and prevent people from becoming perfect teachers, *their competition.* Thomas Quackenbush, a famous, honest Natural Eyesight Improvement Teacher, (teaching full time since 1983) searched for, found, added extra clarifications to and published Dr. Bates magazines in 2001. 1st book in 1997 contained some magazines; 'Relearning to See-Improve Your Eyesight Naturally'. This re-enlightened the public to the existence of Dr. Bates magazines, books and medical articles. I attended Tom's student class in 1999, age 42 after studying his book and obtaining clear close reading eyesight (presbyopia healed) and clearer than 20/20 far eyesight! Present age 58, June, 2015 and still see clear even after a neck, spine injury in Oct., 2009 caused many eye, eyesight, balance and hearing problems. The Bates Method brought the eyesight back to 20/20 and clearer.

Dr. Bates work is preserved for the public in Color PDF E-books at; clearеyesight-batesmethod.info/id148.html Includes Dr. Bates original 1920 book *Perfect Sight Without Glasses*, his *Medical Articles*, *Stories From The Clinic* by his devote wife, New York City Clinic Assistant Emily C. Lierman/A. Bates and the entire collection of Dr. Bates Original, Unedited, Antique Better Eyesight Magazine in the 1900's print. 11 years, 132 issues, every year, month, page. Over 2400 pages and a text copy of the magazines with 500 color pictures and additional modern practices.

Pass this knowledge along freely, help others enjoy perfect eyesight, healthy eyes. (Thank you, Clark Night.)

CHILDREN MAY IMPROVE THEIR SIGHT BY CONSCIOUSLY DOING THE WRONG THING

Children often make a great effort to see the blackboard and other distant objects in school. It helps them to overcome this habit to have them demonstrate just what the strain to see does.

Tell them to fix their attention on the smallest letter they can see from their seats, to stare at it, to concentrate on it, to partly close their eyelids—in short, to make as great an effort as possible to see it.

The letter will blur, or disappear altogether, and the whole card may become blurred, while discomfort, or pain in the eyes or head, will be produced.

Now direct them to rest their eyes by palming. The pain or discomfort will cease, the letter will come out again, and other letters that they could not see before may come out also.

After a demonstration like this children are less likely to make an effort to see the blackboard, or anything else; but some children have to repeat the experiment many times before the subconscious inclination to strain is corrected.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1921, by the Central Fixation Publishing Company
Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. V AUGUST, 1921 No. 2

SIGHT-SAVING IN THE SCHOOL-ROOM

By EDITH F. GAVIN

It seemed so wonderful to me to be able to lay aside my glasses and have eye comfort after wearing them for twenty-two years with discomfort the greater part of the time! I could scarcely wait to get back home to talk to the other teachers about it and try to help a few of the children.

I began with Gertrude, who was so nearsighted that from a front seat she was unable to see very black figures one and one-half inches high printed on a white chart and hanging on the front board. Her vision January 11, 1921, was 20/70 in both eyes, but by March 10th she had improved to 20/70 with the right eye and 20/30 with the left and could read the chart from the last seat in the row.

Matilda had complained of headaches since last September. Glasses were obtained last December, and after a two months' struggle to get used to them, she refused to wear them, saying that they made her head and eyes feel worse. I then told her how to palm and practice with the chart. She had no more headaches in school, and her mother said she didn't complain at home. Her vision also improved from 20/30 to 20/15.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1925, by the Central Fixation Publishing Company
Editor, W. H. BATES, M. D.
Publisher, CENTRAL FIXATION PUBLISHING COMPANY

Vol. X. DECEMBER, 1925 No. 6

Shifting

By W. H. BATES, M.D.

***Shifting:** The point regarded changes rapidly and continuously.*

A MAN with imperfect sight, who had obtained normal vision by my method of treatment without glasses, called about five years later and announced that the cure had proved permanent. His vision was normal when each eye was tested at twenty feet with Snellen test cards which he had not seen before.

He was asked: "What cured you?"

"Shifting," he answered.

All persons with imperfect sight make an effort to stare with their eyes immovable. The eyes have not the ability to keep stationary. To look intently at a point continuously is impossible, the eyes will move, the eyelids will blink, and the effort is accompanied by an imperfect vision of the point regarded. In many cases the effort to concentrate on a point often causes headache, pain in the eyes and fatigue.

All persons with normal eyes and normal sight do not concentrate or try to see by any effort. Their eyes are at rest, and, when the eyes are at rest, they are constantly moving. When the eyes move, one is able to imagine all stationary objects in turn to be moving in the direction opposite to the movement of the head and eyes. It is impossible to imagine with equal clearness a number of objects to be moving at the same time, and an effort to do so is a strain which impairs the vision, the memory, or the imagination. To try to do the impossible is a strain, which always lowers the mental efficiency. This fact should be emphasized.

Many patients have difficulty in imagining stationary objects to be moving opposite to the movements of the eyes or head. When riding in a fast moving train, and one regards the telegraph poles or other objects which are seen,—the near objects may appear to be moving opposite to the direction in which the train is moving, while more distant objects may appear to move in the same direction as the train.

The above facts may also be imagined when traveling in an automobile. The driver of the car and others occupying a front seat may imagine the road to be moving toward the moving car. When pain, fatigue or other symptoms are present it always means that the individual is consciously or unconsciously trying to imagine stationary objects are not moving. The effort is a strain.

When walking about a room the head and eyes move in the same direction as the body moves, and the carpet and the furniture appear to move in the opposite direction. However, it can be demonstrated that when the head and eyes are moving forward they are also moving from side to side. Every time the right foot is placed forward the eyes move to the right, while stationary objects appear to move in the opposite direction,—to the left; when the left foot steps forward the whole body, including the eyes moves to the left, while stationary objects appear to move in the opposite direction,—to the right.

Patients with normal vision are able to imagine this movement more readily than those with imperfect sight. The head and eyes also move upwards and downwards as the foot is lifted and lowered. When you raise your foot to take a step, the eyes go up, and everything else that is stationary appears to go down. When you lower your foot or head, the eyes go down and stationary objects appear to go up.

Better Eyesight Magazine by William H. Bates M.D.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

SCHOOL NUMBER

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. XI AUGUST, 1926 No. 2

Demonstrate

School Children
By W. H. Bates, M.D.

Stories from the Clinic
No. 78: School Children
By Emily C. Lierman

What the Bates Method Did for One School Boy
By May Secor

Questions and Answers

$2.00 per year 20 cents per copy Back numbers 30 cents

Published by the CENTRAL FIXATION PUBLISHING COMPANY
383 MADISON AVENUE NEW YORK, N. Y.

REI
.B4

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Dr. W. H. Bates
Nov. 28. 1924

BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glasses

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No. 1

FOREWORD.

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.[1] This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent. of the registrants were rejected, 13 per cent. more than for any other single cause.[2]

Later the standard was lowered[3] so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interferring with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection in the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

[1]Havard: Manual of Military Hygiene for the Military services of the United States, third revised edition 1917, p. 195.

[2]Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.

[3]Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 75, issued through office of the Provost Marshal General.

132 Issues of Better Eyesight Magazine contain a variety of Dr. Bates natural cures, treatments for every eye, vision condition. 11 years practice in his New York City Clinic. This book *Perfect Sight Without Glasses* and the Magazines contain an entire Bates Method, Natural Vision Improvement course. Free in the PDF E-Books. 132 'PAGE TWO' Best Training Practices by Dr. Bates from his Better Eyesight Magazine in Small Print and extra Modern Practices, Pictures are placed at the end of this book. Pg. 326. Read or Listen to Better Eyesight Magazine in any Language; *http://www.cleareyesight.info/naturalvisionimprovementoriginalandmodernbatesmethod/*

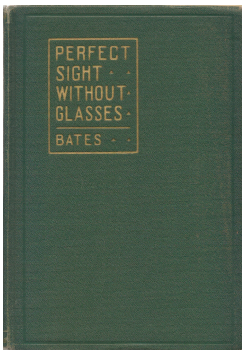
The Cure of Imperfect Sight by Treatment Without Glasses
by Ophthalmologist William H. Bates
Dr. Bates First, Original Book

Ophthalmologist
William Horatio Bates

Ophthalmologist William Horatio Bates, M. D. discovered the natural function-principles of the eyes, eyesight 'visual system'. *The Bates Method of Natural Eyesight Improvement*. He cured thousands of patient's eyesight without use of eyeglasses, surgery, drugs; Unclear Distant and Close Vision, (Nearsight-Myopia, Farsight, Presbyopia), Astigmatism, Crossed/Wandering eyes (Strabismus), Amblyopia, Cataracts, Glaucoma, Cornea Ulcers and Scars, Optic Nerve function, Retinitis Pigmentosa, Retina health-function, Color Blindness, various types of Blindness and other conditions. Surgery, drugs were used only when absolutely necessary; eye injury, parasites, specific conditions.

Author of *Perfect Sight Without Glasses* (The Cure of Imperfect Sight by Treatment Without Glasses), *Better Eyesight Magazine* and a variety of *Medical Articles* beginning after college in 1881.

Emily C. Lierman, Bates



This is Dr. Bates original 1920-1940 book. In later editions after 1940, 12 years after Dr. Bates passed away, many treatments were removed, changed. Example; Open Eyes Sunning, 'Sun-Gazing'. The new treatment is; Sun-Gazing, Sunning is mainly practiced with the eyes closed, but looking at the bright sunny sky away from the sun with the eyes open is allowed. Dr. Bates taught; When Sunning, Sun-Gazing, facing the sun or near it with the eyes open or closed; keep the eyes and head moving, shifting side to side, up, down... across the sun and sky. The head moves with the eyes in the same direction. Open Eyes Sunning is done a specific way, for a brief time, a few seconds. Always with the eyes, head constantly moving 'eyes shifting' and blinking. Never stare into the sun. Keep the eyes moving, look away from the sun often. More time is allowed when looking at the sunset, sunrise on the horizon when the sun's strength is low. The sunlight practices along with the entire Bates Method has cured various forms of blindness. See the end of this book for the entire directions, precautions.

There are many old very effective methods in Dr. Bates original books that are not included in later editions. This is due to teachers, authors fearing organized eye surgeons, doctors, businesses (who prefer to sell eye surgery, eyeglasses, contacts and drugs) bringing Bates Teachers to court in an attempt to stop them from teaching this healthy practice. Teacher, author's Margaret Corbett and Aldous Huxley, with many students, Calif. Hollywood stars as their witnesses won all cases brought against them and preserved the right for all people to practice, teach The Bates Method. But; to this day teachers have to keep a low profile, limit advertising.

The 1940 edition of Perfect Sight Without Glasses contains extra practices from Dr. Bates Better Eyesight Magazine added by his wife, assistant Emily C. Lierman (A. Bates). She also wrote 'Stories From The Clinic' (originally in Better Eyesight) describing many of their patient's eye conditions, the natural treatments applied by Dr. Bates and Emily... in his New York City Clinic and other locations. Many children were cured. They also taught in California. Many teachers were trained. Movies were created in Los Angeles, CA illustrating the Bates Method for curing imperfect sight. The Method is used in Schools, the Army, Air Force, Navy... to cure and prevent unclear eyesight, enabling people to enter their profession, the military with clear, legal eyesight.

Bates Method teachers, students prefer Dr. Bates original practices in this book and his Better Eyesight Magazine, Medical Articles. Dr. Bates' original treatments, experiments, directions are necessary to understand the true method, training from the mind of the Original Bates Teacher, the Eye Doctor that discovered, practiced, taught Natural Eyesight Improvement. True life stories, 12+ years of recorded treatments, practice by the doctors, patients, parents, children, school teachers, adults, seniors and certified Bates Teachers. Dr. Bates experiments 'with pictures' show how the eye muscles, eyes work and relax for clear eyesight.

www.cleareyesight-batesmethod.info preserves Dr. Bates books with extra practices, pictures, Original and Modern Training, entire 132 Issues of Dr. Bates Better Eyesight Magazine - Years 1919-1930. All books, magazines in the Original Antique Print, Unedited, preserved in the 1st print edition. Includes 'Better Eyesight Magazine Illustrated with 500 Pictures', Emily's book 'Stories From The Clinic', her extra Suggestions- Fundamental Principles of Treatment, Eyechart Training from the 1940 final print edition and 20 E-Books containing other eye doctor's, author's books, Clark Night-Natural Eyesight teacher books.

Blue and Navy print, extra pictures in this book are by Natural Eyesight Improvement Teacher, Author Clark Night to describe new modern practices, additions to a few of the older, original treatments.

Copyright, 1920-1940 By W. H. BATES, M. D. & EMILY A. BATES

PRESS OF THOS. B. BROOKS, Inc., NEW YORK. Later Prints; BURR PRINTING HOUSE, NEW YORK

Thank-You for Reading a Paperback, Kindle or PDF E-Book

Contact mclearsight@aol.com, www.cleareyesight-batesmethod.info, www.cleareyesight-batesmethod.info/id148.html for the Color PDF version of this book, videos and 20 E-books.

Your purchase supports free and low cost Natural Eyesight Improvement and Donations to the Guide Dog Schools, Perkins School for the Blind, DAV at; http://cleareyesight.info/id73.html

20 PDF E-Books: Natural Eyesight (Vision) Improvement Training

Do It Yourself-Natural Eyesight Improvement-Original and Modern Bates Method

Dr. Bates observes perfect light ray refraction (focus) with the glass and retinoscope as the patient sees fine print clear with relaxation.

+ A Exact Copy the Author's Natural Eyesight Improvement Website www.cleareyesight-batesmethod.info and Dr. Bates Better Eyesight Magazine website in book form with all Training, Activities, Text, Pictures, Downloads and Links.
+ Natural Eyesight Improvement Training Book with 100+ Color Pictures. Less reading; Easy to learn steps-read the short directions on the pictures to quickly learn, apply a treatment, activity for Fast Vision Improvement. (All of Dr. Bates, Clark Night's Kindle, Paperback and PDF books are in this E-Book and the 20 E-books collection.)
+ Better Eyesight Magazine by Ophthalmologist William H. Bates - (Unedited, Full Set - 132 Magazine Issues - 11 Years - July, 1919 to June, 1930.) Illustrated with 500 Pictures and additional up to date Modern Natural Eyesight Improvement Training.
+ Original Better Eyesight Magazine by Ophthalmologist William H. Bates - Photo copy of all his Original Antique Magazine Pages in the 1900's Print. (Unedited, Full Set - 132 Magazine Issues - 11 Years - July, 1919 to June, 1930.) A History Book. Learn Natural Eyesight Improvement Treatments directly from the Original Eye Doctor that discovered and practiced this effective, safe, natural method! Magazines and Method Hidden from the public by eye surgeons, optometrists, optical businesses for over 100 years because this method works and frees the patient from the need to purchase eyeglasses, drugs, eye drops, unnecessary eye surgery. Yes, it can and has reversed cataracts and other eye conditions including glaucoma, various types of partial and full blindness!
+ The Cure of Imperfect Sight by Treatment Without Glasses by Dr. Bates (Photo Copy of the Original Antique Book Pages) with Pictures. Dr. Bates First, Original Book. (Text version with Modern Treatments included.) Main title, on book cover; Perfect Sight Without Glasses.
+ Medical Articles by Dr. Bates - with Pictures.
+ Stories From The Clinic by Emily C. A. Lierman/Bates. (Dr. Bates Clinic Assistant, Wife.)
+ Use Your Own Eyes by Dr. William B. MacCracken M.D. (Trained with Dr. Bates.)
+ Normal Sight Without Glasses by Dr. William B. MacCracken M.D.
+ Strengthening The Eyes by Bernarr MacFadden & Dr. Bates - with Pictures and Modern Training. (Trained with Dr. Bates. One of the First Physical Fitness Teachers.)
+ EFT Training Booklet - with Acupressure, Energy Balance, Strengthening, Positive Emotions. Easy step by step directions with Pictures.
+ Seeing, Reading Fine Print Clear, Clear Close Vision (Presbyopia Treatments) with Videos.
+ Eight Correct, Relaxed Vision Habits - A Quick Course in Natural Eyesight Improvement. (10 Steps For Clear Eyesight.)
+ Astigmatism Removal Treatments - Natural Eyesight Improvement with Astigmatism Swings, Eyecharts and Videos.
+ Eyecharts Booklet with Natural Eyesight Improvement Basic Training.
+ Eyecharts - 15 Large, Small & Fine Print Big C, E Charts for Close and Distant Vision, White and Black Letter Charts, Tumbling E Chart, Astigmatism Test and Removal Charts, Behavioral Optometry Charts. Eyechart Video Training.
+ Audio Training in Every Chapter
+ Video Links in Training Chapters - Learn a Treatment, Activity Quick and Easy.
+ Videos Page; Links to 120+ Natural Eyesight Improvement Training Videos; YouTube and on the Author's Website. Download Videos to DVD. Convert for Television. Watch YouTube Videos on Cable TV. New videos added in 2015+; https://www.youtube.com/user/ClarkClydeNight/videos

E-Book contains over 1500 pages. 650+ Color Pictures. No password; print, bind all 20 books. Read the books, watch the videos for an entire Natural Eyesight Improvement Training Course.

Check the 'New Stuff Page'; http://cleareyesight.info/id61.html for notice when new Free PDF E-Books, new Chapters, Activities are added to the E-Books. Print the pages, add them to the paperback book.

This list is limited. More books have been added; http://cleareyesight-batesmethod.info/id148.html and the GuestPage; http://naturaleyesightimprovement-batesmethod.com/GuestPage/index.php

This book and all the Author's books on Amazon included; http://www.amazon.com/Clark-Night/e/B004HU1MNS/ref=dp_byline_cont_pop_book_1 Books are in Color with Pictures. Read or listen to/record Dr. Bates Better Eyesight Magazines on the Internet at; http://www.cleareyesight.info/naturalvisionimprovementoriginalandmodernbatesmethod/

Entire Introduction, Dedication to Dr. Bates, The Bates Method of Natural Eyesight Improvement History, Original and Modern Practices, Directions and Eyecharts are placed at the end of this book.

See the pictures with short directions to quickly learn the method. Then the Ophthalmology, technical part of the book, purpose for the eye, eye muscle... experiments and each practice taught by Dr. Bates will be easy to absorb, put into immediate practice for fast eyesight improvement.

PERFECT SIGHT

If you learn the fundamental principles of perfect sight and will consciously keep them in mind your defective vision will disappear. The following discoveries were made by Dr. Bates and his method is based on them. With it he has cured so-called incurable cases:

1. Many blind people are curable.
2. All errors of refraction are functional, therefore curable.
3. All defective vision is due to strain in some form.
4. Strain is relieved by relaxation.

You can demonstrate to your own satisfaction that strain lowers the vision. When you stare, you strain. Look fixedly at one object for five seconds or longer. What happens? The object blurs and finally disappears. Also, your eyes are made uncomfortable by this experiment. When you rest your eyes for a few moments the vision is improved and the discomfort relieved.

Have some one with perfect sight demonstrate the fundamental principles contained in Dr. Bates' book, "Perfect Sight Without Glasses." If the suggestions and instructions are carried out, and glasses discarded, it is possible to improve the vision without personally consulting a physician.

"Perfect Sight Without Glasses" will be sent C. O. D. on five days' approval. Price, $5.00.

Central Fixation Publishing Company
383 Madison Avenue, New York City

THOS. B. BROOKS, INC.
NEW YORK

Practice Time

A large number of people have bought the book "Perfect Sight Without Glasses" but do not derive as much benefit from it as they should because they do not know how long they should practice.

Rest: The eyes are rested in various ways. One of the best methods is to close the eyes for half an hour after testing the sight. This usually improves the vision.

Palming: With the eyes closed and covered with the palms of both hands the vision is usually benefited. The patient should do this five minutes hourly.

Shifting: The patient looks from one side of the room to the other, alternately resting the eyes. This may be done three times daily for half an hour at a time. The head should move with the eyes and the patient should blink.

Swinging: When the shifting is slow, stationary objects appear to move from side to side. This should be observed whenever the head and eyes move.

Long Swing: Nearly all persons should practice the long swing one hundred times daily.

Memory: When the vision is perfect, it is impossible for the memory to be imperfect. One can improve the memory by alternately remembering a letter with the eyes open and closed. This should be practiced for half an hour twice daily.

Imagination: It has been frequently demonstrated and published in this magazine that the vision is only what we imagine it to be. Imagination should be practiced whenever the vision is tested. Imagine a known letter with the eyes open and with the eyes closed. This should be practiced for ten minutes twice daily.

Repetition: When one method is found which improves the vision more than any other method, it should be practiced until the vision is continuously improved.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

For Sale By

The Central Fixation Publishing Company

Paper ....50 Cents
Cardboard (folding) .....75 Cents

DELIVERED

Back numbers BETTER EYESIGHT.....$ .30
Bound vols., 1st and 2nd years, each..... 4.25
Photographic reductions of the Bible..... 4.00
Ophthalmoscopes (best quality) 4.00
Burning glasses 4.00

Reprints of articles by Dr. Bates in other medical journals, a limited number for sale. Send for list.

FOR SALE BY

Central Fixation Publishing Company
18 East 48th Street, New York

SNELLEN TEST CARDS

There should be a Snellen Test Card in every home and schoolroom. When properly used, it always improves the sight, even when this is already normal, and children and adults are often cured of errors of refraction simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

Cardboard (folding), 25 cents, postpaid.

Numeral Test Cards and other special styles, 50 cents and $1.00, postage prepaid.

Fundamental Cards, 10 cents each.

BETTER EYESIGHT

A magazine devoted to the prevention and cure of imperfect sight without glasses.

W. H. BATES, M.D., Editor

This monthly contains the latest discoveries of the editor, and gives simple instructions for self-treatment by the aid of which many persons have been able to cure themselves. $2.00 per year.

Back numbers: 30 cents a copy; bound volumes, twelve issues each, $3.00.

REPRINTS OF ARTICLES BY DR. BATES
from medical journals
in book form,
$0.50 Each.

Perfect
Sight
Withou
Glasses

BATES

Fundamentals
By
W. H. Bates, M. D.

1 - Glasses discarded permanently.

2 - Central fixation is seeing best where you are looking.
Central-Fixation; Place the object you are looking at in the center of the eyes' visual field. The central field moves with the eyes as the eyes-vision shift (move) from part to part on an object and from object to object. The head moves with the eyes. Page; 114, 403.

3 - Favorable conditions: Light may be bright or dim. The distance of the print from the eyes, where seen best, also varies with people.
Read fine print in the sunlight daily to keep the eyesight clear in bright and dim light. Allow sunlight to shine inside the home.

4 - Shifting: With normal sight the eyes are moving all the time.

5 - Swinging: When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the opposite direction.
Oppositional Movement 'The Swing'. Read more information, examples on page 322.

6 - Long Swing: Stand with the feet about one foot apart, turn the body to the right --at the same time lifting the heel of the left foot. Do not move the head or eyes or pay any attention to the apparent movement of stationary objects. *
Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate. See picture on pg. 170-171.

*** Long Swing - Clarification; the head and eyes do move. They move with the body, in the same direction, at the same time. Synchronized; body, head, eyes moving together right, left, right, left... Easy, continual. Do NOT move the head, eyes in a direction opposite to the body's movement. Do not lock onto and try to see clearly objects that appear to swing by in the opposite direction as you move right and left. Do not try to stop the movement of the objects. Just relax and swing.**
See Dr. Bates additional directions on the right > and pg. 322 (An alternate method allows a quick 'fraction of a second' glance-*shift* on a letter on 2 eyecharts placed on the left and right sides of the body. Swinging is not interrupted; pg. 428.)

LONG SWING: Stand with the feet about one foot apart. Turn the body to the right, at the same time lifting the heel of the left foot. The head and eyes move with the movement of the body. Do not pay any attention to the apparent movement of stationary objects. Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate. Pain and fatigue are relieved promptly while practicing this swing. When done correctly, relief is felt in a short time. The long swing, when done before retiring, lessens eyestrain during sleep.

7 - Drifting Swing: When using this method, one pays no attention to the clearness of stationary objects, which appear to be moving. The eyes move from point to point slowly, easily, or lazily, so that the stare or strain may be avoided.

8 - Variable Swing: Hold the forefinger of one hand six inches from the right eye and about the same distance to the right, look straight ahead and move the head a short distance from side to side. The finger appears to move.
*** Clarification for #8, Variable Swing; The eyes *move*, with the head, in the same direction. Look straight ahead and then; move the head and eyes together side to side. See the finger appear to move opposite the head-eyes movement.**
This can also be done with the finger 6 inches in front of the face/nose, at eye level, between the left and right eyes.

9 - Stationary Objects Moving: By moving the head and eyes a short distance from side to side, being sure to blink, one can imagine stationary objects to be moving. Oppositional Movement 'The Swing'; Stationary objects appear to move opposite of the movement 'shift' of the eyes, head. The object swings in the opposite direction. This is relaxing, improves the vision. See examples on page 322.

10 - Memory: Improving the memory of letters and other objects improves the vision for everything.

11 - Imagination: We see only what we think we see, or what we imagine. We can only imagine what we remember.
Memory, imagination, remembering-imagining objects clear. Clear pictures stored in the mind. The brain and eyes work together; When the brain's function, memory and imagination improve; the vision improves. When the vision improves; the brain's function, memory and imagination improve. Each strengthens the other. Relaxation also works with, improves all these functions.

12 - Rest: All cases of imperfect sight are improved by closing the eyes and resting them.

13 - Palming: The closed eyes may be covered by the palm of one or both hands. (Preferably both hands.) Practice memory, imagination and relaxation with palming. Palming and other activities, correct eye-vision functions listed above are completely described with pictures in the book chapters and at the end of this book. Palming; page 123, 399. See Better Eyesight Magazine.

14 - Blinking: The normal eye blinks, or closes and opens very frequently.

15 - Mental Pictures: As long as one is awake one has all kinds of memories of mental pictures. If these pictures are remembered easily, perfectly, the vision is benefited. Memory and imagination; remembering, imagining objects clear. Clear mental pictures. Happy thoughts, memories, imagination of places, experiences, creations, fantasies... Practice with or without palming.

Extra directions-clarifications (in Navy text) are added to Dr. Bates, Emily's books and Better Eyesight Magazine. Dr. Bates is not here to teach us in person. He included the entire instructions in his book, magazine. Five practices needed directions combined so the reader does not need to search through 2700 pages for entire description-steps; Head-Eyes, Body Moving Together when doing-seeing the Swings. Seeing the Opposite Swing on Close and Far Objects. Sunning and the Sunglass, Seeing the Glowing White Spaces between sentences and around letters 'Halos'.

The Original Method for Practicing Natural Eyesight Improvement
Described by Ophthalmologist William H. Bates

BETTER EYESIGHT

September, 1927

Perfect Sight

By William H. Bates

If you learn the fundamental principles of perfect sight and will consciously keep them in mind your defective vision will disappear. The following discoveries were made by W. H. Bates, M. D., and his method is based on them. With it he has cured so-called incurable cases:

I. Many blind people are curable.

II. All errors of refraction are functional, therefore curable.

III. All defective vision is due to strain in some form.

You can demonstrate to your own satisfaction that strain lowers the vision.
When you stare, you strain. Look fixedly at one object for five seconds or longer. What happens? The object blurs and finally disappears. Also, your eyes are made uncomfortable by this experiment. When you rest your eyes for a few moments the vision is improved and the discomfort relieved.

IV. Strain is relieved by relaxation.

To use your eyes correctly all day long, it is necessary that you:

1. Blink frequently. Staring is a strain and always lowers the vision.

2. Shift your glance constantly from one point to another, seeing the part regarded best and other parts not so clearly. That is, when you look at a chair, do not try to see the whole object at once; look first at the back of it, seeing that part best and other parts worse. Remember to blink as you quickly shift your glance from the back to the seat and legs, seeing each part best, in turn. This is central-fixation. (with shifting.)

3. Your head and eyes are moving all day long. Imagine that stationary objects are moving in the direction opposite to the movement of your head and eyes. When you walk about the room or on the street, notice that the floor or pavement seems to come toward you, while objects on either side appear to move in the direction opposite to the movement of your body.

BETTER EYESIGHT

December, 1927

INSTRUCTIONS FOR HOME TREATMENT

By William H. Bates

The most important fact is to impress upon the patient the necessity of discarding his glasses. He is told that when glasses are used temporarily a relapse always follows and the patient loses for a short time, at least, everything that has been gained. If it is impossible or unnecessary for the patient to return at regular intervals for further treatment and supervision, he is given instructions for home practice to suit his individual case, and is asked to report his progress or difficulties at frequent intervals.

The importance of practicing certain parts of the routine treatment at all times, such as blinking, central-fixation, shifting and imagining stationary objects to be moving opposite to the movement of his head and eyes, is stressed.
The normal eye does these things unconsciously, and the imperfect eye must at first practice them consciously until it becomes an unconscious habit.

The Natural Vision Improvement student practices 'imitates' these normal, natural eye-vision, body, mind... functions (Relaxed, Natural, Correct Vision Habits) to gently coax the eyes-vision, brain, eye muscles, body (visual system) back to normal, relaxed function with clear vision. Then; the eyes, brain, body... function correct, automatically on their own maintaining clear vision. All of Dr. Bates 132 Better Eyesight Magazine Issues, practices are in the E-Books. Read them; learn a variety of his techniques to obtain relaxation and movement. Choose practices that work best, easy for you. Maintain natural correct vision habits; shifting, central-fixation, movement, the opposite swing, memory-imagination, relaxed full breathing, blinking, sunlight. With practice they will become automatic, occur on their own. Sunlight will become like food; a healthy daily nourishment. Spiritual and Chi... energy improvement and Massage, posture is beneficial.

Fundamentals

1. Glasses discarded permanently.
2. Favorable conditions: Light may be bright or dim. The distance of the print from the eyes, where seen best, also varies with people.
3. Central Fixation is seeing best where you are looking.
4. Shifting: With normal sight the eyes are moving all the time. This should be practiced continuously and consciously.
5. Swinging: When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the opposite direction.
6. Long Swing: Stand with the feet about one foot apart, turn the body to the right—at the same time lifting the heel of the left foot. Do not move the head or eyes or pay any attention to the apparent movement of stationary objects. Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate. This exercise can be practiced just before retiring at night fifty times or more. When done properly, it is a great rest and relieves pain, fatigue, and other symptoms of imperfect sight.
7. Stationary Objects Moving: By moving the head and eyes a short distance from side to side, one can imagine stationary objects to be moving. Since the normal eye is moving all the time, one should imagine all stationary objects to be moving. Never imagine that you see a stationary object stationary.
8. Palming: The closed eyes may be covered with the palm of one or both hands. The patient should rest the eyes and think of something else that is pleasant.
9. Blinking: The normal eye blinks, or closes and opens very frequently. If one does not blink, the vision always becomes worse.

SUGGESTIONS TO PATIENTS

The Use of the Snellen Test Card

1—Every home should have a test card.

2—It is best to place the card permanently on the wall in a good light.

3—Each member of the family or household read the card every day.

4—It takes only a minute to test the sight with the card. If you spend five minutes in the morning practicing with the card, it will be a great help during the day.

5—Place yourself ten feet from the card and read as far as you can without effort or strain. Over each line of letters are small figures indicating the distance. Over the big C at the top is the figure 50. The big C, therefore, should be read at a distance of 50 feet.

6—If you can only see the fifth line, notice that the last letter on that line is an R. Now close your eyes, cover them with the palms of the hands and remember the R. If you will remember that the left side is straight, the right side partly curved and the bottom open, you will get a good mental picture of the R with your eyes closed. This mental picture will help you to see the letter directly underneath the R, which is a T.

7—Shifting is good to stop the stare. If you stare at the letter T, you will notice that all the letters on that line begin to blur. It is beneficial to close your eyes quickly after you see the T, open them, and shift to the first figure on that line, which is a 3. Then close your eyes and remember the 3. You will become able to read all the letters on that line by closing your eyes for each letter.

8—Keep a record of each test in order to note your progress from day to day.

Clarification For Fundamentals # 6 and 7;

 # 6 - When doing the Long Swing the head and eyes DO move; The head and eyes move with the body. The head, eyes and body move together, at the same time, in the same direction; right, left, right, left... (start direction of the swing can be left or right.)

This relaxes the mind, body, eyes and brings clear eyesight.

Dr. Bates and Emily are saying; Do NOT move the head and eyes OPPOSITE of, away from the direction the body is swinging to. Keep the eyes, head and body moving together. Do not stop to look at, see clearly stationary objects appearing to move 'swing by' in the opposite direction of the eyes, head and body's movement. Do not try to stop the movement of stationary objects. Just relax and swing.

See the previous 'Fundamentals Page' and pg. 322, chapters, pictures in this book for Long Swing, Sway examples, pictures.

 # 7; The shift 'movement' of the eyes and head causes stationary objects to appear to move 'swing' past the eyes-head in the opposite direction - opposite of the direction the eyes-head (your central field of vision) are moving to. Try Dr. Bates 2 swings on the right. > The shift of the eyes causes the opposite movement. Shift left and right on the letter O. See it move in the opposite direction.

Seeing stationary objects move is a healthy illusion of the visual system. Imagining it, looking for it, inducing it helps to bring back perfect eye movement 'shifting', central-fixation and clear eyesight.

Universal Swing: **The patient stands and sways the body from side to side. While the body is moving, the eyes are moving, and stationary objects nearby which have a background appear to move in the opposite direction to the movement of the head and eyes. Objects located at more distant points which have no background always appear to move in the same direction as the movement of the body. If the finger is held before the eyes while the head is moved from side to side, one may, by practice, become able to imagine that everything connected with the finger, either directly or indirectly, is moving in the opposite direction, while the background is moving in the same direction. The universal swing is very beneficial and usually prevents and cures pain, dizziness, and other nervous symptoms.**

DRIFTING SWING: The patient does not think of nor regard anything longer than a fraction of a second. It is helpful in doing this for the patient to imagine himself floating down a river. He may be able to imagine the drifting movement of the boat in which he is floating, better with the eyes closed than with them open. In this case, alternate the imagination with the eyes open and with them closed. The imagination may be improved in this way. **Shift continually, easy, relaxed from one object to another.**

Ophthalmologist William H. Bates

One of Dr. Bates first Natural Eyesight Treatment Without Glasses Medical Articles which began in the 1800's;

New York Medical Journal, August 30, 1913 ,Vol. 98 - Page 410-413

MYOPIA PREVENTION BY TEACHERS.

By W. H. Bates, M. D.,
New York.

Myopia with elongation of the eyeball is incurable. It is usually acquired during school life. Acute myopia, spasm of the accommodation, or functional myopia is an early stage of incurable myopia. The cause of myopia is an effort to see distant objects.

Corroboration: 1. Myopic refraction has always been produced in man and the lower animals when regarding unfamiliar distant objects which required an effort. 2. Myopia was prevented in the

[New York Medical Journal.

public schools of Grand Forks, N. D., for eight years by methods which prevented an effort to see distant objects. 3. Myopia was always benefited by treatment suggested by the cause. 4. The cause suggested a method for the experimental production of myopia in rabbits, dogs, and cats. 5. Physicians, teachers, and others interested have investigated and confirmed these facts. 6. It should be emphasized that there is but *one* cause of myopia, an effort to see distant objects. There is no other cause.

Near use of the eyes is not a cause of myopia. By the aid of simultaneous retinoscopy, it was always demonstrated that an effort to see near objects lessened myopic refraction or produced hypermetropic refraction.

Prevention of diseases is usually suggested by the cause. When the cause is known, prevention may be successful, but when the cause is not known prevention is uncertain. For example: Yellow fever, twenty five years ago, was not prevented by quarantine, disinfection, or other methods until the cause was discovered, the infected mosquito. By removing the cause, yellow fever has been eliminated from Havana and Panama.

Likewise, previous efforts to prevent myopia have failed because the cause was not known. It was erroneously believed that when school children regarded, or made an effort to see, distant objects, that the eyes were at rest or that accommodation or myopic refraction did not occur. Simultaneous retinoscopy disproved this assumption. It has been repeatedly demonstrated with the aid of the retinoscope that all school children with normal eyes when regarding unfamiliar writing or figures on the blackboard, distant maps, diagrams, or pictures had myopic refraction. It was quite otherwise when they regarded a familiar distant object. The retinoscope used at the same time indicated no myopic refraction.

The Snellen test card, while being of use for testing the acuity of vision, was found also during the past ten years to be the best distant object for exercises in distant vision. It should be memorized and thus made a familiar distant object. After its daily use for half a minute or longer myopia was prevented; and, in addition the vision of many pupils with defective sight was improved for an unfamiliar Snellen card, for writing and figures on the blackboard, and for other distant objects. Furthermore, near vision was benefited by the use of the Snellen card. Many pupils stated that they could study their lessons with less or no discomfort.

Myopia prevention was introduced in Public Schools Nos. 6, 183, and 186 of New York city, January, 1912; later, Public Schools Nos. 46 and 43 tested the method.

A Snellen test card was placed permanently where all the pupils could see it from their seats. Daily the teachers recommended all the children to silently read the card with each eye separately, covering the other eye with the palm of the hand in such a way as to avoid pressure on the eyeball.

THE FUNDAMENTAL PRINCIPLE

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the one you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principle of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Ophthalmologist William H. Bates discovered the natural function of the eyes, Natural Eyesight Improvement. He cured thousands of patients' vision without eyeglasses, eye surgery, drugs; *unclear close and distant (far) vision*, *astigmatism*, *crossed/wandering eyes*, *amblyopia*, *cataracts*, *conical cornea*, *cornea ulcers* and *scars*, *retinitis pigmentosa*, *glaucoma* and other conditions.

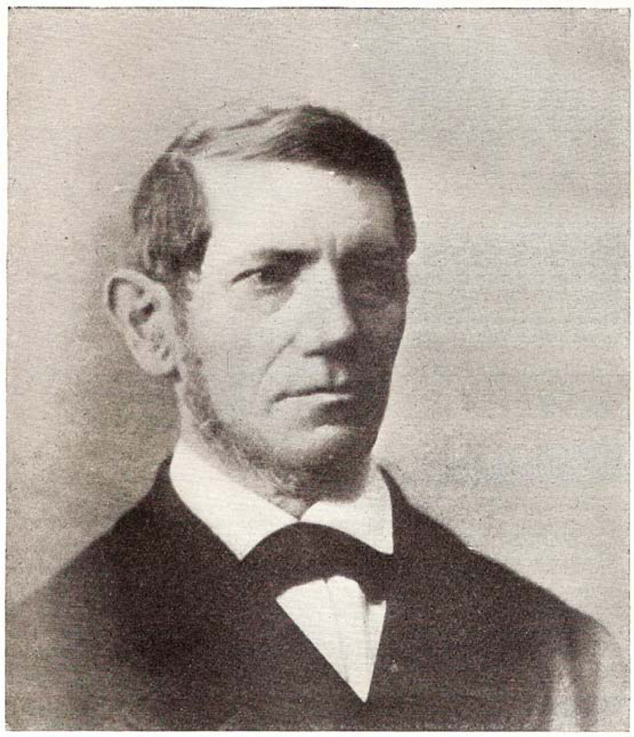
Author of; *The Cure of Imperfect Sight by Treatment Without Glasses* (2nd title of this book), *Better Eyesight Magazine* and many *Medical Articles*. His wife/assistant Emily C. Lierman/Bates' book; *Stories From The Clinic*.

Contact; www.cleareyesight-batesmethod.info, mclearsight@aol.com for free PDF E-book copies of these books in text and Original Antique Print.

This is Dr. Bates' original book. Later editions by other creators (after Dr. Bates' death, after his wife Emily A. Bates' final 1940 edition) are changed; Open Eyes Sunning, the Sun-Glass (Burning-Glass), Dr. Bates' eye, eye muscle, cornea, lens... experiments with pictures are removed. Example; Sunning (Sun-Gazing) in new editions is altered; facing the sun is done with the eyes closed. True Bates teachers allow open and closed eyes sunning, and looking at the bright sunny sky near, away from the sun with eyes open. Move 'shift' the eyes. Blink. When sunning; keep the head and open, closed eyes moving. Eyes continually shifting. (Open eyes must blink.) Shift side to side, up, down... The head/face and eyes move together in the same direction. Shifting and blinking prevents over-concentration of sunlight on/in the eyes.

Many Bates Method teachers prefer Dr. Bates' original training in *his* book and Better Eyesight Magazine. Sunning with *eyes open*; facing the sun, shifting on, over it is practiced a specific way; time limit, with the eyes, head *constantly moving*. The eyes blink often. Read Dr. Bates' book and magazine for many examples of peoples' eyes, vision cured by the sunlight treatment. It improves the vision, eyes' health and cures various forms of blindness.

Ophthalmologist William Horatio Bates



FERDINAND VON ARLT
(1812-1887)

Distinguished Austrian ophthalmologist, Professor of Diseases of the Eye at Vienna, who believed for a time that accommodation was produced by an elongation of the visual axis, but finally accepted the conclusions of Cramer and Helmholtz.

INJURIES OF THE EYE

AND THEIR

MEDICO-LEGAL ASPECT.

BY

FERDINAND VON ARLT, M.D.,

PROFESSOR OF OPHTHALMOLOGY IN THE UNIVERSITY OF VIENNA, AUSTRIA.

TRANSLATED

WITH THE PERMISSION OF THE AUTHOR

BY

CHAS. S. TURNBULL, M.D.,

SURGEON TO THE EYE AND EAR DEPARTMENT, HOWARD HOSPITAL; CHIEF OF THE EAR CLINIC, JEFFERSON MEDICAL COLLEGE HOSPITAL; PHYSICIAN TO THE GERMAN HOSPITAL, PHILADELPHIA; LATE RESIDENT ASSIST. SURGEON TO THE NEW YORK OPHTHALMIC AND AURAL INSTITUTE, ETC. ETC. ETC.

PHILADELPHIA:

CLAXTON, REMSEN, & HAFFELFINGER,

624, 626, 628 MARKET STREET.

1878.

OBITUARY.

DR. FERDINAND VON ARLT.

DR. FERDINAND VON ARLT, Emeritus Professor of Ophthalmology in the University of Vienna, died in that city on March 7th. Born in rather humble circumstances, in 1812, near Teplitz, in Bohemia, the fourth of a family of six children, he gained by his own efforts a world-wide reputation. His merits were recognised by the Austrian Government, not only by his professorship, but, among other orders, by that of the Iron Crown, which conferred upon him the patent of nobility. Destined by his parents for the priesthood, Arlt nevertheless succeeded in following his natural bent, and entered in 1831 as a medical student at the University of Prague, where he graduated in 1839. In 1840 he became assistant to the Professor of Ophthalmology, Dr. Fischer, who was at that time, perhaps, the most distinguished of the Prague professors. Six years later he filled the place of Fischer during the illness which, in 1849, proved fatal. Then Arlt succeeded to the Professorship of Ophthalmology, in which capacity he had the honour of receiving Von Graefe as a student, and of giving him his first impulse towards the study of eye-disease. Called to Vienna in 1855, he only resigned his chair there in 1882, on reaching his seventieth year. The cause of his death was gangrene of the left leg, for which he twice underwent amputation of the limb, first below the knee, and afterwards in the middle of the thigh. These painful operations were endured most heroically without chloroform, the use of which was contra-indicated by his general condition. For a time he rallied sufficiently to take carriage exercise, till a fatal relapse gradually brought all his sufferings to an end.

Von Arlt married, in 1842, the daughter of Dr. Dittrich, who had often befriended him in his poor student-days. He leaves a daughter and two sons, one of whom, Dr. Ferdinand Ritter von Arlt, succeeds him in his practice.

Von Arlt's principal work is his well-known *Text-Book of Eye Diseases*, published 1851-6, in three volumes. In 1881 he brought out what was intended to be only the first instalment of his clinical lectures, comprising the diseases of the conjunctiva, cornea, sclerotic, and uveal tract. From Von Arlt was first derived the idea of scientifically constructed tests of vision, which was afterwards elaborated till it resulted in the test-types of Von Jaeger, Snellen, and others. He also was the first to recognise the importance of refraction as a remedial means. Till his time the prescription of spectacles was in the hands of shopkeepers, and was thought to be simply a mechanical matter, rather beneath the dignity of a learned profession.

Nearly fifty years of sound and beneficent work entitle Von Arlt to a place in the front rank of ophthalmologists, and his attainments and example have done much to elevate the department which he so successfully cultivated into a most flourishing and reputable branch of medical science.

The Cure of Imperfect Sight by Treatment Without Glasses

By
W. H. BATES, M.D.

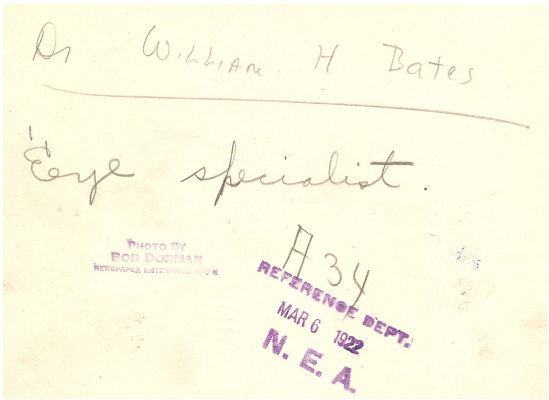
Ninth Printing

EMILY A. BATES, PUBLISHER
20 PARK AVENUE, NEW YORK CITY

CENTRAL FIXATION PUBLISHING CO.
210 MADISON AVENUE, NEW YORK CITY

Copyright, 1920
By W. H. Bates, M.D.

Copyright, 1940
By Emily A. Bates



Doctor W. H. Bates

BURR PRINTING HOUSE
NEW YORK

PRESS OF THOS. B. BROOKS, Inc.
NEW YORK

On a tomb in the Church of Santa Maria Maggiore in Florence was found an inscription which read: "Here lies Salvino degli Armati, Inventor of Spectacles. May God pardon him his sins."

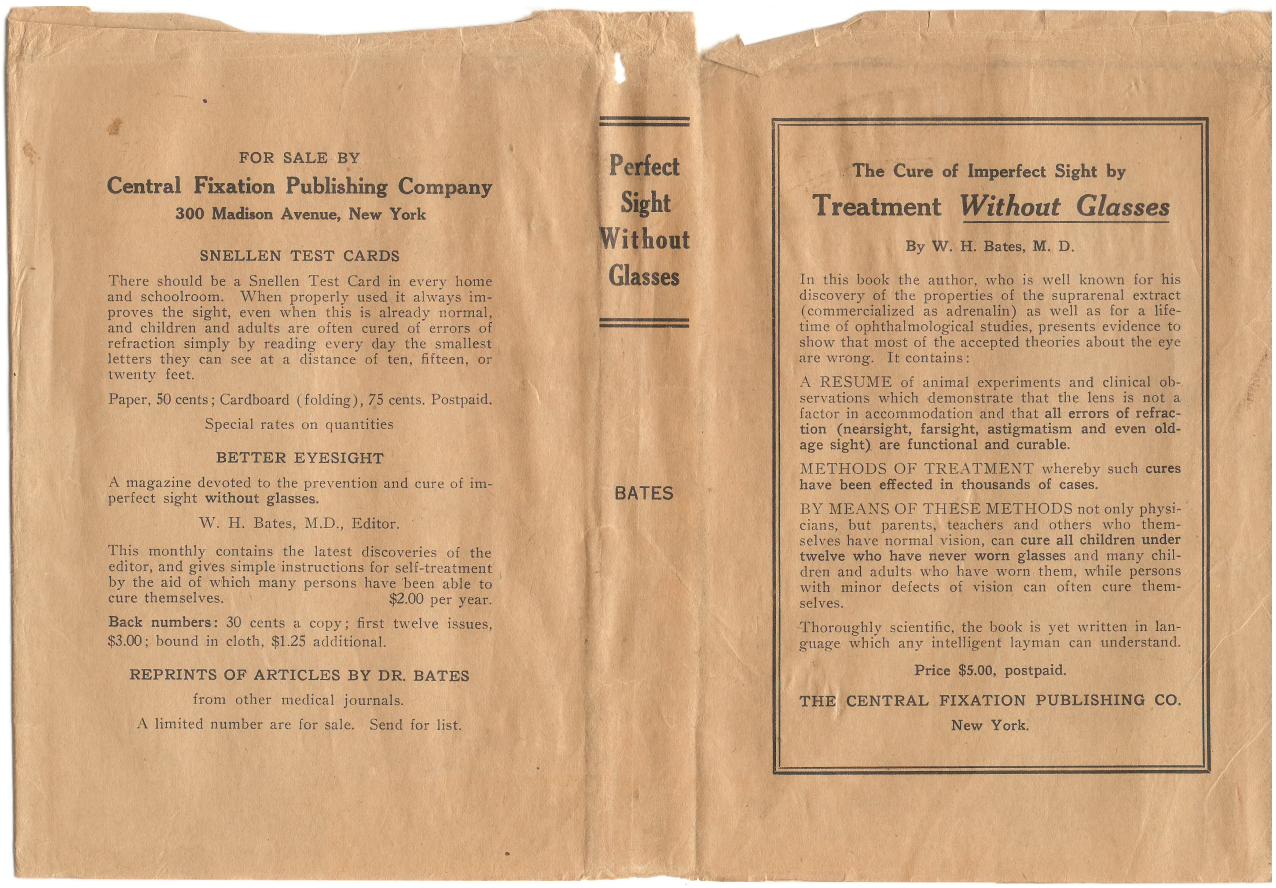
Nuova Enciclopedia Italiana, Sixth Edition.

TO THE MEMORY

OF THE

PIONEERS OF OPHTHALMOLOGY

THIS BOOK IS GRATEFULLY DEDICATED



FOR SALE BY

Central Fixation Publishing Company

300 Madison Avenue, New York

SNELLEN TEST CARDS

There should be a Snellen Test Card in every home and schoolroom. When properly used it always improves the sight, even when this is already normal, and children and adults are often cured of errors of refraction simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

Paper, 50 cents; Cardboard (folding), 75 cents. Postpaid.

Special rates on quantities

BETTER EYESIGHT

A magazine devoted to the prevention and cure of imperfect sight **without glasses.**

W. H. Bates, M.D., Editor.

This monthly contains the latest discoveries of the editor, and gives simple instructions for self-treatment by the aid of which many persons have been able to cure themselves. $2.00 per year.

Back numbers: 30 cents a copy; first twelve issues, $3.00; bound in cloth, $1.25 additional.

REPRINTS OF ARTICLES BY DR. BATES

from other medical journals.

A limited number are for sale. Send for list.

Perfect Sight Without Glasses

BATES

The Cure of Imperfect Sight by

Treatment *Without Glasses*

By W. H. Bates, M. D.

In this book the author, who is well known for his discovery of the properties of the suprarenal extract (commercialized as adrenalin) as well as for a lifetime of ophthalmological studies, presents evidence to show that most of the accepted theories about the eye are wrong. It contains:

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction (nearsight, farsight, astigmatism and even old-age sight) are functional and curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.**

BY MEANS OF THESE METHODS not only physicians, but parents, teachers and others who themselves have normal vision, can **cure all children under twelve who have never worn glasses** and many children and adults who have worn them, while persons with minor defects of vision can often cure themselves.

Thoroughly scientific, the book is yet written in language which any intelligent layman can understand.

Price $5.00, postpaid.

THE CENTRAL FIXATION PUBLISHING CO.

New York.

Antique Dust Cover - Perfect Sight Without Glasses

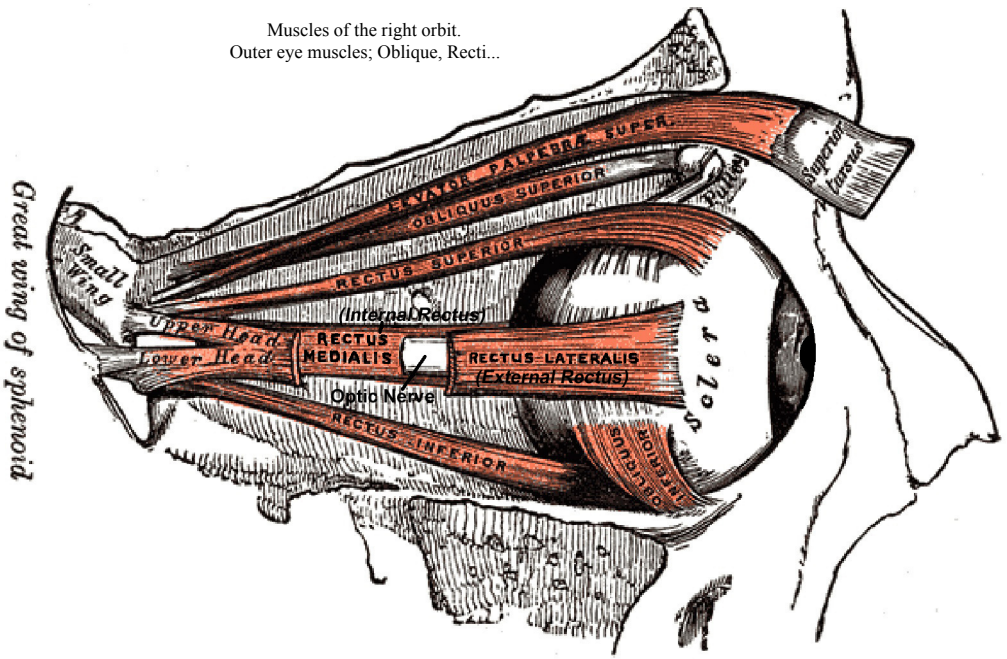
Might be the original 1920 first print edition advertised in 1919. Note the paper-bag type material used for this first cover design. Some pictures in the book were printed light. In later editions the printer perfected the quality of the pictures, darkened them. The print was also darkened. A new dust cover was created with stronger paper, some had a new color. A way to find the oldest edition is; Dates, addresses of the offices are on the covers of Dr. Bates monthly Better Eyesight Magazine. Starts in July, 1919 and ends in June, 1930. Compare the different address on covers, advertisements to the book's inner page and the dust cover.

PREFACE

This book aims to be a collection of facts and not of theories and insofar as it is, I do not fear successful contradiction. When explanations have been offered it has been done with considerable trepidation, because I have never been able to formulate a theory that would withstand the test of the facts either in my possession at the time, or accumulated later. The same is true of the theories of every other man, for a theory is only a guess, and you cannot guess or imagine the truth. No one has ever satisfactorily answered the question, "Why?" as most scientific men are well aware, and I did not feel that I could do better than others who had tried and failed. One cannot even draw conclusions safely from facts, because a conclusion is very much like a theory, and may be disproved or modified by facts accumulated later. In the science of ophthalmology, theories, often stated as facts, have served to obscure the truth and throttle investigation for more than a hundred years. The explanations of the phenomena of sight put forward by Young, von Graefe, Helmholtz and Donders have caused us to ignore or explain away a multitude of facts which otherwise would have led to the discovery of the truth about errors of refraction and the consequent prevention of an incalculable amount of human misery.

In presenting my experimental work to the public, I desire to acknowledge my indebtedness to Mrs. E. C. Lierman, whose co-operation during four years of arduous labor and prolonged failure made it possible to carry

Muscles of the right orbit.
Outer eye muscles; Oblique, Recti...



Antique picture of the eye is from the book; Anatomy - Descriptive and Surgical. Later edition; Anatomy Of The Human Body - 1858 to 1918+. By Henry Gray-Anatomist, Surgeon, Artist and Henry Vandyke Carter - Anatomist, Surgeon, Artist. See page 2. Pictures by doctors Gray and Carter are added to 24 pages in this book. They are labeled as; 'Picture from *Anatomy Of The Human Body*' to distinguish them from Ophthalmologist William H. Bates' pictures, experiments. The picture above was added to Dr. Bates 1943 book; Better Eyesight Without Glasses. It was altered a bit by a new artist and labels placed around the picture.

the work to a successful issue. I would be glad, further, to acknowledge my debt to others who aided me with suggestions, or more direct assistance, but am unable to do so, as they have requested me not to mention their names in this connection.

As there has been a considerable demand for the book from the laity, an effort has been made to present the subject in such a way as to be intelligible to persons unfamiliar with ophthalmology.

OFFICE OF THE ARCHIVIST

Oglethorpe University

MANU DEI RESURREXIT

Good minds, good morals, good manners

Oglethorpe University, Ga.

October 18, 1938.

Mr. W. H. Bates, M.D.
210 Madison Ave.
New York, N. Y.

Dear Sir:

It gives me pleasure to advise you that our Advisory Board has selected your book, PERFECT SIGHT WITHOUT GLASSES, for inclusion in the Crypt of Civilization.

As you doubtless know practically every newspaper and magazine in America as well as radio broadcasting stations have carried and are carrying the stories of this remarkable project. The most authentic examples of the age in which we live and particularly the new chemical products which are so strikingly an example of our present civilization together with micro filmed books, models to scale and other objects are being assembled for deposit in the crypt to be sealed up for six thousand years. We would be pleased to have you present us with a copy of the latest edition of the above book. As it is necessary to destroy this in microfilming, an unbound but gathered copy of one with damaged cover will do equally as well as a perfect copy. The method of preservation is described in the enclosed bulletin.

Very truly yours,

T. K. Peters
OGLETHORPE UNIVERSITY
Director of Archives

* * * * * * *

Fac-simile of a letter from Oglethorpe University reprinted, together with the Certificate on the opposite page—by permission of the authorities of the University—as an acknowledgment of their kind regard for the work of the author.

This Certificate

is given to Emily A. Bates in grateful acknowledgment of a gift made to the people of the year A.D. 8113 and deposited in

Crypt of Civilization

at Oglethorpe University
near Atlanta, Georgia

along with photographs, books, motion picture films, and actual objects used in our daily life, all of which are to be preserved for posterity by:

T. K. Peters
Archivist

Founder, Crypt of Civilization
President, Oglethorpe University

CONTENTS

PAGE

Preface vii

CHAPTER I

Introductory 1

Prevalence of errors of refraction—Believed to be incurable and practically unpreventable—The eye regarded as a blunder of Nature—Facts which seem to justify this conclusion—Failure of all efforts to prevent the development of eye defects—Futility of prevailing methods of treatment—Conflict of facts with the theory of incurability of errors of refraction—These facts commonly explained away or ignored—The author unable to ignore them, or to accept current explanations—Finally forced to reject accepted theories.

CHAPTER II

Simultaneous Retinoscopy 17

Retinoscopy the source of much of the information presented in this book—What the retinoscope is—Its possibilities not realized—Commonly used only under artificial conditions—Used by the author under the conditions of life on human beings and the lower animals—Thus many new facts were discovered—Conflict of these facts with accepted theories—Resulting investigations.

CHAPTER III

Evidence For the Accepted Theory of Accommodation 23

Development of the theory—Behavior of the lens in accommodation as noted by Helmholtz—General acceptance of these observations as facts—Abandonment by Arlt of the true explanation of accommodation—Inability of Helmholtz to explain satisfactorily the supposed change of form in the lens—Question still unsettled—Apparent accommodation in lenseless eyes—Curious and unscientific theories advanced to account for it—Voluntary production of astigmatism—Impossibility of reconciling it with the theory of an inextensible eyeball.

CHAPTER IV PAGE

The Truth About Accommodation As Demonstrated By Experiments on the Eye Muscles of Fish, Cats, Dogs, Rabbits and Other Animals . . 38

Disputed function of the external muscles of the eyeball—Once regarded as possible factors in accommodation—This idea dismissed after supposed demonstration that accommodation depends upon the lens—Author's experiments demonstrate that accommodation depends wholly upon these muscles—Accommodation prevented and produced at will by their manipulation—Also errors of refraction—The oblique muscles of accommodation—The recti concerned in the production of hypermetropia and astigmatism—No accommodation with one oblique cut, paralyzed, or absent—Paralysis of accommodation in experimental animals accomplished only by injection of atropine deep into the orbit, so as to reach the oblique muscles—Accommodation unaffected by removal of the lens—Fourth cranial nerve supplying superior oblique muscle a nerve of accommodation—Sources of error believed to have been eliminated in experiments.

CHAPTER V

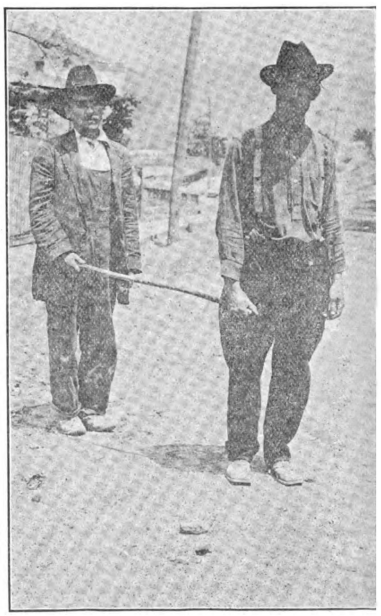
The Truth About Accommodation As Demonstrated By a Study of Images Reflected From the Cornea, Iris, Lens and Sclera 54

Technique of Helmholtz defective—Image obtained by his method on the front of the lens not sufficiently distinct or stable to be measured—Failure of author to get reliable image with various sources of light—Success with 1,000-watt lamp, diaphragm and condenser—Image photographed—Images on cornea, iris, lens and sclera also photographed—Results confirmed earlier observations—Eyeball changes its shape during accommodation—Lens does not—Strain to see at near-point produces hypermetropia—Strain to see at distance myopia—Method of obtaining the corneal image.

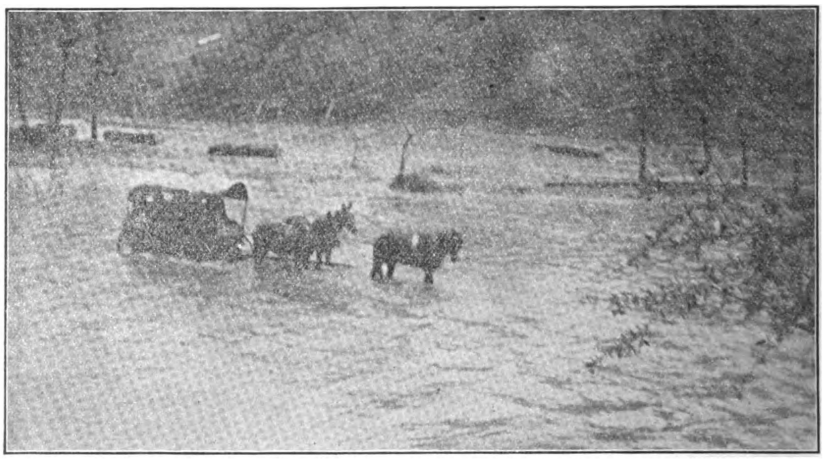
CHAPTER VI

The Truth About Accommodation As Demonstrated By Clinical Observations 69

Results of experimental work confirmed by clinical observations—Atropine supposed to prevent accommodation—Conflict of facts with this theory—Normal accommodation observed in eyes under influence of atro-



Man behind totally blind—one in front nearly so from trachoma. Traveled in this manner for twenty miles to visit the trachoma hospital at Jackson, Ky. A Kentucky picture.



Fording Troublesome Creek en route to the Hospital at Lexington with wagon load of patients. A Kentucky picture.

PAGE

pine for long periods—Evidence of these cases against accepted theories overwhelming—Cases of accommodation in lenseless eyes observed by author—Reality of the apparent act of accommodation demonstrated by the retinoscope—Evidence from the cure of presbyopia—Harmony of all clinical observations with views of accommodation and errors of refraction presented in this book.

CHAPTER VII

The Variability of the Refraction of the Eye . . 75

Refractive states supposed to be permanent—Retinoscope demonstrates the contrary—Normal sight never continuous—Refractive errors always changing—Conditions which produce errors of refraction—Variability of refractive states the cause of many accidents—Also of much statistical confusion.

CHAPTER VIII

What Glasses Do to Us 81

The sins of Salvino degli Armati reputed inventor of spectacles—How glasses harm the eyes—Sight never improved by them to normal—Always resented at first by the eye—Objects of vision distorted by them—Disagreeable sensatoins produced—Field of vision contracted—Difficulty of keeping the glass clean—Reflection of light from lenses annoying and dangerous—Inconvenience of glasses to physically active persons—Effect on personal appearance—No muscular strain relieved by them—Apparent benefits often due to mental suggestion—Fortunate that many patients refuse to wear them—At best an unsatisfactory substitute for normal sight.

CHAPTER IX

Cause and Cure of Errors of Refraction . . . 89

All abnormal action of external muscles of the eyeball accompanied by a strain to see — With relief of this strain all errors of refraction disappear—Myopia (or lessening of hypermetropia) associated with strain to see at the distance — Hypermetropia (or lessening of myopia) associated with strain to see at the near-point —Facts easily demonstrated by retinoscope—Effect of strain at the near-point accounts for apparent loss of accommodation in the lenseless eye—Mental origin of eyestrain—Accounts for effect of civilization on the eye —Lower animals affected as man is—Remedy to get rid

PAGE

of mental strain—Temporary relaxation easy—Permanent relaxation may be difficult—Eyes not rested by sleep or tired by use—Rested only by resting the mind —Time required for a cure.

CHAPTER X

Strain 106

Foundation of the strain to see—Act of seeing passive —Same true of action of all sensory nerves—Their efficiency impaired when made the subject of effort—The mind the source of all such efforts brought to bear upon the eye—Mental strain of any kind produces eyestrain— This strain takes many forms—Results in production of many abnormal conditions — Circulation disturbed by strain—Normal circulation restored by mental control— Thus errors of refraction and other abnormal conditions are cured.

CHAPTER XI

Central Fixation 114

The center of sight—The eye normally sees one part of everything it looks at best—Central fixation lost in all abnormal conditions of the eye—Cause of mental strain —With central fixation the eye is perfectly at rest—Can be used indefinitely without fatigue—Open and quiet— No wrinkles or dark circles around it—Visual axes parallel—With eccentric fixation the contrary is the case— Eccentric fixation cured by any method that relieves strain—Limits of vision determined by central fixation— Organic diseases relieved or cured by it—No limit can be set to its possibilities—Relation to general efficiency and general health.

CHAPTER XII

Palming 123

Relaxation with the eyes shut—With light excluded by palms of the hands (palming)—Evidence of complete relaxation in palming—Of incomplete relaxation—Difficulties of palming—How dealt with—Futility of effort— All the sensory nerves relaxed by successful palming— Pain relieved in all parts of the body—Patients who succeed at once are quickly cured—A minority not helped and should try other methods.

Clinic at one of the trachoma hospitals. A Kentucky picture.

CHAPTER XIII

PAGE

Memory As an Aid to Vision 136

Memory a test of relaxation—Memory of black most suitable for the purpose—Application of this fact to treatment of functional eye troubles—Sensation not a reliable index of strain—Memory of black is—Enables the patient to avoid conditions that produce strain—Conditions favorable to memory—Retention of memory under unfavorable conditions—Quick cures by its aid—A great help to other mental processes—Tests of a perfect memory.

CHAPTER XIV

Imagination As an Aid to Vision 148

Retinal impressions interpreted by the mind—Memory or imagination normally used as an aid to sight—In imperfect sight the mind adds imperfections to the imperfect retinal image—Only a small part of the phenomena of refractive errors accounted for by the inaccuracy of the focus—Difference between the photographic picture when the camera is out of focus and the visual impressions of the mind when the eye is out of focus—Patients helped by understanding of this fact—Dependence of imagination upon memory—Coincidence of both with sight—Perfect imagination dependent upon relaxation—Therefore imagination cures—Method of using it for this purpose—Remarkable cures effected by it.

CHAPTER XV

Shifting and Swinging 159

Apparent movement of objects regarded with normal vision—Due to unconscious shifting of the eye—Impossibility of fixing a point for an appreciable length of time—lowering of vision by attempt to do so—Inconspicuousness of normal shifting—Its incredible rapidity—Staring an important factor in the production of imperfect sight—Tendency to stare corrected by conscious shifting and realization of apparent movement resulting from it—Conditions of success with shifting—The universal swing—Methods of shifting—Cures effected by this means.

CHAPTER XVI

The Illusions of Imperfect and of Normal Sight . . 172

Normal and abnormal illusions—Illusions of color—Of size—Of form—Of number—Of location—Of nonexistent objects—Of complementary colors—Of the

PAGE

color of the sun—Blind spots—Twinkling stars—Cause of illusions of imperfect sight—Voluntary production of illusions—Illusions of central fixation—Normal illusions of color—Illusions produced by shifting—The upright position of objects regarded an illusion.

CHAPTER XVII

Vision Under Adverse Conditions a Benefit to the Eye 183

Erroneous ideas of ocular hygiene—Conditions supposedly injurious may be a benefit to the eye—No foundation for universal fear of the light—Temporary discomfort but no permanent injury from it—Benefits of sun-gazing—Of looking at a strong electric light—Not light but darkness a danger to the eye—Sudden contrasts of light may be beneficial—Advantages of the movies—Benefits of reading fine print—Reading in moving vehicles—In a recumbent posture—Vision under difficult conditions good mental training.

CHAPTER XVIII

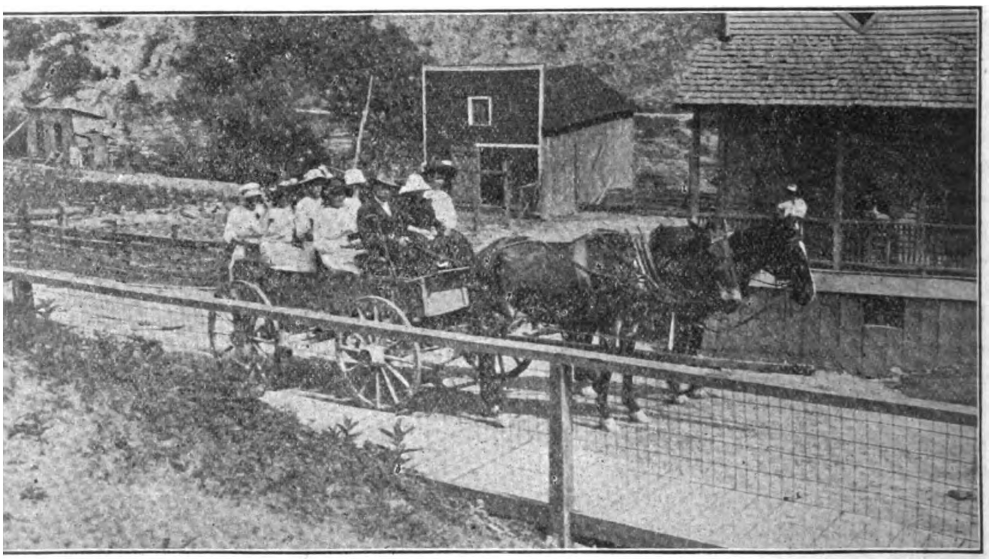
Optimums and Pessimums 198

All objects not seen equally well when sight is imperfect—The eye has its optimums and pessimums—Some easily accounted for — Others unaccountable — Familiar objects optimums—Unfamiliar objects pessimums—Examples of unaccountable optimums and pessimums—Variability of optimums and pessimums—Test card usually a pessimum—Pessimums which the patient is not conscious of seeing—Pessimums associated with a strain to see—How pessimums may become optimums.

CHAPTER XIX

The Relief of Pain and Other Symptoms by the Aid of the Memory 202

No pain felt when the memory is perfect—All the senses improved—Efficiency of the mind increased—Operations performed without anaesthetics — Organic disorders relieved—Facts not fully explained, but attested by numerous proofs—Possible relationship of the principle involved to cures of Faith Curists and Christian Scientists.



Wagon load of trachoma cases which had been cured at one of the three Service Trachoma Hospitals in Eastern Kentucky. A Kentucky picture.

CHAPTER XX

PAGE

Presbyopia: Its Cause and Cure 210

Failure of near vision as age advances—Supposed normality of this phenomenon—Near-points expected at different ages—Many do not fit this schedule—Some never become presbyopic—Some retain normal vision for some objects while presbyopic for others—First and second of these classes of cases explained away or ignored—Third not heretofore observed—Presbyopia both preventable and curable—Due to a strain to see at the near-point—No necessary connection with age—Lens may flatten and lose refractive power with advancing years, but not necessarily—Temporary increase of presbyopia by strain at the near-point—Temporary relief by closing the eyes or palming—Permanent relief by permanent relief of strain—How the author cured himself—Other cures—Danger of putting on glasses at the presbyopic age—Prevention of presbyopia.

CHAPTER XXI

Squint and Amblyopia: Their Cause 221

Definition of squint—Theories as to its cause—Failure of these theories to fit the facts—Failure of operative treatment—State of the vision not an important factor—Amblyopia ex anopsia—Association with squint not invariable—Supposed incurability—Spontaneous recovery—Curious forms of double vision in squint—Invariable association of squint and amblyopia with strain—Invariable relief following relief of strain—Voluntary production of squint by strain.

CHAPTER XXII

Squint and Amblyopia: Their Cure 227

Squint and amblyopia purely functional troubles—Cured by any method that relieves strain—Relaxation sometimes gained by voluntary increase of squint, or production of other kinds—Remarkable cure effected in this way—Strain relieved when patient is able to look more nearly in the proper direction—Proper use of a squinting eye encouraged by covering the good eye—Children cured by use of atropine in one or both eyes—Examples of cases cured by eye education.

CHAPTER XXIII

PAGE

Floating Specks: Their Cause and Cure 236

Floating specks a common phenomenon of imperfect sight—Their appearance and behavior—Theories as to their origin—A fruitful field for the patent-medicine business—Examples of the needless alarm they have caused—May be seen at times by any one—Simply an illusion caused by mental strain—This strain easily relieved—Illustrative cases.

CHAPTER XXIV

Home Treatment 242

Many persons can cure themselves of defective sight—Only necessary to follow a few simple directions—How to test the sight—Children who have not worn glasses cured by reading the Snellen test card every day—Adults of the same class also benefited in a short time—Cases of adults and children who have worn glasses more difficult—Glasses must be discarded—How to make a test card—Need of a teacher in difficult cases—Qualifications of such teachers—Duty of parents.

CHAPTER XXV

Correspondence Treatment 246

Correspondence treatment usually regarded as quackery—Impossible in the case of most diseases—Errors of refraction, not being diseases, admit of such treatment—Glasses successfully fitted by mail—Less room for failure in correspondence treatment of imperfect sight without glasses—Personal treatment more satisfactory, but not always available—Examples of cases cured by correspondence—Need for the co-operation of local practitioners in such treatment.

CHAPTER XXVI

The Prevention of Myopia in Schools: Methods That Failed 251

A much debated question—Literature on the subject voluminous and unreliable—All that is certainly known—Studies of Cohn—Confirmation of his observations by other investigators in America and Europe—Increase of myopia during school life unanimously attributed to near work—Inadequacy of this theory—Failure of preventive measures based upon it—New difficulties—The appeal to heredity—To natural adaptation—Objections to these views—Why all preventive measures have failed.

How My Eyestrain was Relieved

By Charlotte Robertson

I HAVE had such wonderful relief by following Dr. Bates' method of treating imperfect sight and eye-strain that I should like to tell of my experience. It may be the means of giving courage to those who suffered as I did, but who hesitate to leave off their glasses. I had worn glasses but my eyes were not benefited. In fact they became worse. I went to Dr. Bates and am pleased to give some of the "exercises" advised by him which I have found very beneficial.

1. The Snellen test card I read upon arising in the morning, at noon and again in the evening, first with two eyes together and later with each eye separately.

2. Palming six times a day or more for a few minutes to half an hour, decreasing the length of time as my eyes improved.

3. I have practiced reading a little fine print daily, also some pages from Dr. Bates' book, "Perfect Sight Without Glasses," which I have always found encouraging. At night on retiring I have used the swing together with central fixation on the small O, and by so doing have lost the wretched strain which I have been conscious of for months, always on awakening in the morning. This exercise consists of swinging the O to the left and seeing the right side best, to the right and seeing the left side best. Also swinging the black period with the O to the left, seeing the period on the right side of the O best, and to the right, seeing the period on the left side of the O best. First by the practice of this exercise, also with a soothing swinging motion as that of drifting in a boat in a comparatively quiet sea, I obtained relaxation when falling to sleep. My morning eye strain had completely disappeared and in its place I awake feeling rested, refreshed and ready for the day's work.

CHAPTER XXVII

PAGE

The Prevention and Cure of Myopia and Other Errors of Refraction in Schools: A Method That Succeeded 259

Production of eyestrain by unfamiliar objects—Relief by familiar objects—Facts furnish the means of preventing and curing errors of refraction in schools—By this means children often gain normal vision with incredible rapidity—Results in schools of Grand Forks, N. D.; New York, and other cities—Improvement in mentality of children as eyesight improved—Reformation of truants and incorrigibles—Hypermetropia and astigmatism prevented and cured—Method succeeded best when teachers did not wear glasses—Success would be greater still under a more rational educational system—Prevalence of defective sight in American children—Its results—Practically all cases preventable and curable—Inexpensiveness of method recommended—Imposes no additional burden on the teachers—Cannot possibly hurt the children—Directions for its use.

CHAPTER XXVIII

The Story of Emily 270

Cure of defective eyesight by cured patients—Cures of fellow students, parents and friends by school children—Remarkable record of Emily—An illustration of the benefits to be expected from the author's method of preventing and curing imperfect sight in school children.

CHAPTER XXIX

Mind and Vision 274

Poor sight one of the most fruitful causes of retardation in schools—More involved in it than inability to see—The result of an abnormal condition of the mind—This cannot be changed by glasses—Memory among faculties impaired when vision is impaired—Memory of primitive man may have been due to the same cause as his keen vision—A modern example of primitive memory combined with primitive keenness of vision—Correspondence between differences in the faculty of memory and differences in visual acuity—Memory and eyesight of children spoiled by the same causes—Both dependent upon interest—Illustrative cases—All the mental faculties improved when vision becomes normal—Examples of such improvement—Relief of symptoms of insanity by eye education—Facts indicate a close relation between the problems of vision and those of education.

CHAPTER XXX

PAGE

Normal Sight and the Relief of Pain for Soldiers and Sailors 284

Growth of militarism in the United States—Demand for universal military training—Lack of suitable material for such training—Defective eyesight greatest impediment to the raising of an efficient army—None more easily removed—Plan for correcting defects of vision submitted to Surgeon General during the war—Not acted upon—Now presented to the public with some modifications—First requisite eye education in schools and colleges—Eye education in training camps and at the front also needed, even for those whose sight is normal—How school system might be modified for military and naval use—Soldiers should not be allowed to wear glasses—Importance of eye training to aviators—Eye training for the relief of pain.

CHAPTER XXXI

Letters from Patients 290

Army officer cures himself—A teacher's experiences—Mental effects of central fixation—Relief after twenty-five years—Search for myopia cure rewarded—Facts versus theories—Cataract relieved by central fixation.

CHAPTER XXXII

Reason and Authority 304

Inaccessibility of average mind to reason—Facts discredited if contrary to authority—Patients discredit their own experience under this influence—Cure of cataract ignored by medical profession—Expulsion of author from N. Y. Post Graduate Medical School for curing myopia—Man not a reasoning being—Consequences to the world.

One of the 1st 1920 Red Cover Editions advertised in Better Eyesight Magazine - September, 1919

Ready October 15, 1920

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

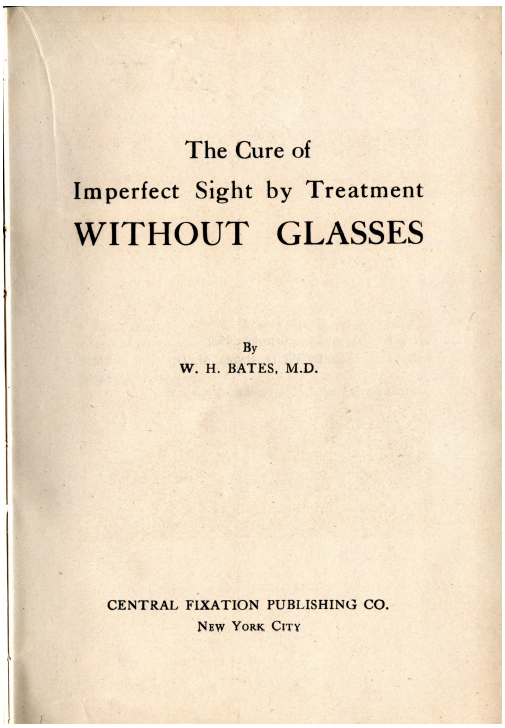
By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $5, post-paid. Orders may be placed now with the

Central Fixation Publishing Company
342 West 42nd Street, New York.



LIST OF ILLUSTRATIONS

Portrait of Ferdinand von Arlt.....Frontispiece

FIG.		PAGE
1.	Patagonians	2
2.	African Pigmies	3
3.	Moros from the Philippines	6
4.	Diagram of the hypermetropic, emmetropic and myopic eyeballs	11
5.	The eye as a camera	13
6.	Mexican Indians	15
7.	Ainus, the aboriginal inhabitants of Japan	16
8.	The usual method of using the retinoscope	18
9.	Diagrams of the images of Purkinje	24
10.	Diagram by which Helmholtz illustrated his theory of accommodation	27
11.	Portrait of Thomas Young	28
12.	Portrait of Hermann Ludwig Ferdinand von Helmholtz	31
13.	Demonstration upon the eye of a rabbit that the inferior oblique muscle is an essential factor in accommodation	40
14.	Demonstration upon the eye of a carp that the superior oblique muscle is essential to accommodation	41
15.	Demonstration upon the eye of a rabbit that the production of refractive errors is dependent upon the action of the external muscles	42
16.	Demonstration upon the eye of a fish that the production of myopic and hypermetropic refraction is dependent upon the action of the extrinsic muscles	43
17.	Production and relief of mixed astigmatism in the eye of a carp	45
18.	Demonstration upon the eyeball of a rabbit that the obliques lengthen the visual axis in myopia	46
19.	Demonstration upon the eye of a carp that the recti shorten the visual axis in hypermetropia	47
20.	Lens pushed out of the axis of vision	48
21.	Rabbit with lens removed	49
22.	Experiment upon the eye of a cat, demonstrating that the fourth nerve, which supplies only the superior oblique muscle, is just as much a nerve of accommodation as the third, and that the superior oblique muscle which it supplies is a muscle of accommodation	50-51
23.	Pithing a fish preparatory to operating upon its eyes	52
24.	Arrangements for photographing images reflected from the eyeball	55

FIG.		PAGE
25.	Arrangements for holding the head of the subject steady while images were being photographed	56
26.	Image of electric filament on the front of the lens	57
27.	Images of the electric filament reflected simultaneously from the cornea and lens	58
28.	Image of electric filament upon the cornea	60
29.	Image of electric filament on the front of the sclera	62
30.	Images on the side of the sclera	63
31.	Multiple images upon the front of the lens	64
32.	Reflection of the electric filament from the iris	65
33.	Demonstrating that the back of the lens does not change during accommodation	67
34.	Straining to see at the near-point produces hypermetropia	90
35.	Myopia produced by unconscious strain to see at the distance is increased by conscious strain	91
36.	Immediate production of myopia and myopic astigmatism in eyes previously normal by strain to see at the distance	92-93
37.	Myopic astigmatism comes and goes according as the subject looks at distant objects with or without strain	94
38.	Patient who has had the lens of the right eye removed for cataract produces changes in the refraction of this eye by strain	96-97
39.	A family group strikingly illustrating the effect of the mind upon the vision	99
40.	Myopes who never went to school, or read in the Subway	100
41.	One of the many thousands of patients cured of errors of refraction by the methods presented in this book	104
42.	Palming	125
43.	Patient with atrophy of the optic nerve gets flashes of improved vision after palming	127
44.	Paralysis of the seventh nerve cured by palming	131
45.	Glaucoma cured by palming	133
46.	Woman with normal vision looking directly at the sun	187
47.	Woman aged 37—child aged 4, both looking directly at the sun without discomfort	189
48.	Focussing the rays of the sun upon the eye of a patient by means of a burning glass	191
49.	Specimen of diamond type	195
50.	Photographic type reduction	195
51.	Operating without anaesthetics	204
52.	Neuralgia relieved by palming and the memory of black.	207
53.	Voluntary production of squint by strain to see	223
54.	Case of divergent vertical squint cured by eye education	230
55.	Temporary cure of squint by memory of a black period.	232
56.	Face-rest designed by Kallmann, a German optician	254

Stories from the Clinic

47: My Young Assistant

By EMILY C. LIERMAN

ONE evening while treating some patients in my home, Baby Ethel, aged three, who had been living with us for over two years, came into the room and sat in a big armchair observing the treatment and listening to every word that passed between the patients and myself. She has large blue eyes, and when she is excited or interested in anything her pupils dilate and the iris seems to change color.

When I told one of the patients to palm for ten minutes Ethel placed her hands over her eyes also. She kept perfectly still for about two minutes and then we heard a pitiful sigh. I watched and presently two little fingers of her right hand began to separate and she peeped. When she saw me smile she quickly removed her hands from her eyes and for a while she sat quietly. Presently she left the room to join other members of my family. After my patients had departed I discovered her in a room ordering the head of the household to palm. She was pointing with her little finger to an imaginary test card on the screen door. The head of the house certainly needs to do some palming and also to practice other things to improve his imperfect sight. Sometimes those whom we love are not easily persuaded to do the things that benefit them, but here was this little three-year-old very seriously giving him a treatment. Then she demanded: "Take down your hands and read the card. Do you see the R? Now close your eyes and 'member it," she demanded. He did so in all sincerity. "Now open your eyes and read some more." He mentioned several letters and then she said: "Swing your body, side to side, and see letters swinging opposite."

He got up and swung as he was told, as all of us looked on in amazement, not daring to laugh, knowing that the little lady was very sensitive.

"Now," said she, "sit down and read some more letters."

He read very faithfully, following her little finger as she touched various parts of the screen door. All of a sudden she complained: "You are staring. You shouldn't stare; that is bad."

"Well," said he, "what must I do, then?"

"You must blink your eyes. Just let me show you how."

She stood before him, blinking and swinging her body from side to side, looking as serious as a judge. At this moment, to our sorrow, we all laughed. I myself could not hold back a moment longer. That broke the spell, and my little three-year-old assistant began to cry. But since then her efforts have not been in vain, for I notice that her patient still keeps up the treatment. I am grateful to Baby Ethel in that she was able to accomplish more for him than I could myself.

While we were sitting in our garden one day an aeroplane passed over our place, and as it traveled on he was able to see it miles away until it became so small to our view that it looked like a small black spot. He then closed his eyes for a while and afterward he read a newspaper for a half hour or so. It has been a long time since he was able to read for that length of time.

When our friends called on us Baby Ethel was ever ready to show them how to palm and swing. She directed her mother to palm if her head ached or if she suffered any pain. Ethel was sincere about it all, because, as she explained it, "Dr. Bates helps big people and little people that way in his office."

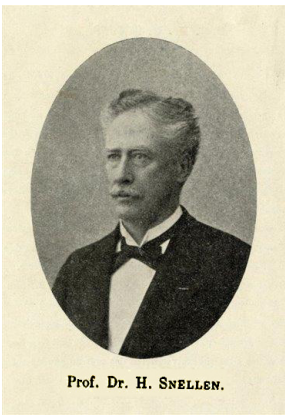
She knew Doctor very well and would talk to him about reading the test card to help children's eyes. She has perfect sight. Her eyes are never still and she blinks unconsciously all day long. If only adults would follow her example there would be less eye strain. I am very grateful for what she accomplished for my husband. Does not the Bible say: "And a little child shall lead them."

TEST CARD PRACTICE

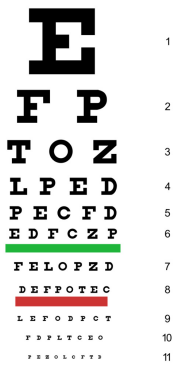
1. Every home should have a test card.
2. It is best to place the card permanently on the wall in a good light.
3. Each member of the family or household should read the card every day.
4. It takes only a minute to test the sight with the card. If you spend five minutes in the morning practicing, it will be a great help during the day.
5. Place yourself ten feet from the card and read as far as you can without effort or strain. Over each line of letters are small figures indicating the distance at which the normal eye can read them. Over the big C at the top of the card is the figure 200. The big C, therefore, should be read by the normal eye at a distance of two hundred feet. If you can read this line at ten feet, your vision would be 10/200. The numerator of the fraction is always the distance of the card from the eyes. The denominator always denotes the number of the line read. If you can only read the line marked 40 at ten feet, the vision is 10/40.
6. If you can only see to the fifth line, for example, notice that the last letter on that line is an R. Now close your eyes, cover them with the palms of the hands and remember the R. If you will remember that the left side is straight, the right side partly curved, and the bottom open, you will get a good mental picture of the R with your eyes closed.

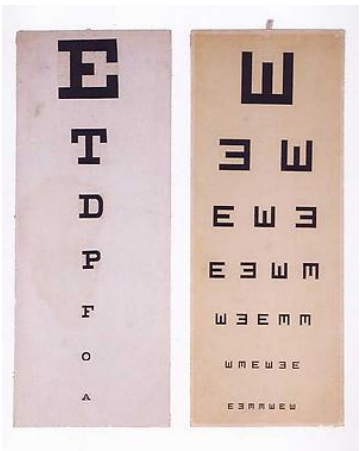
   This mental picture will help you to see the letter directly underneath the R, which is a T.
7. Shifting is good to stop the stare. If you stare at the letter T, you will notice that all the letters on that line begin to blur. It is beneficial to close your eyes quickly after you see the T, open them, and shift to the first figure on that line, which is a 3. Then close your eyes and remember the 3. You will become able to read all the letters on that line by closing your eyes for each letter.
8. Keep a record of each test in order to note your progress from day to day.
9. When you become able to read the bottom line with each eye at ten feet, your vision is normal for the distance, 10/10.
10. The distance of the Snellen test card from the patient is a matter of considerable importance. However, some patients improve more rapidly when the card is placed fifteen or twenty feet away, while others fail to get any benefit with the card at this distance. In some cases the best results are obtained when the card is as close as one foot. Others with poor vision may not improve when the card is placed at ten feet or further, or at one foot or less, but do much better when the card is placed at a middle distance, at about eight feet. Some patients may not improve their vision at all at ten feet, but are able to improve their sight at twenty feet, or at one foot. While some patients are benefited by practicing with the card daily, always at the same distance, there are others who seem to be benefited when the distance of the card from the patient is changed daily.

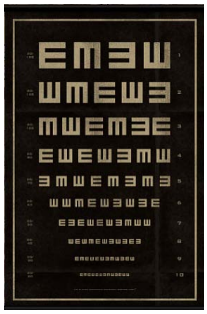
The Snellen eyechart was invented by Herman Snellen, a Dutch Ophthalmologist. 20 feet was chosen as the test distance for clear 20/20 far eyesight. The human eye can see clearer than 20/20; smaller letters at 30, 40+ feet. Pictures; Antique original and modern charts. 1 - 3 letters per line eyecharts are easy to see clear due to preventing effort to see, strain. Effort, strain occur when being rushed to read a long line of unfamiliar letters, pressured to hurry and see perfectly. Effort, stress tenses the mind, eye muscles, disrupts eye movement and lowers the vision. Relaxation enables all charts, including long lines of letters to be seen clear.

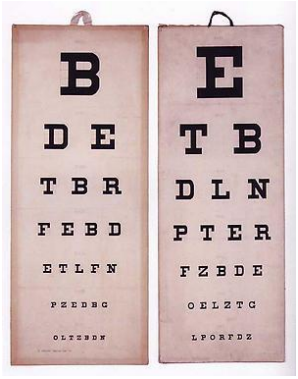


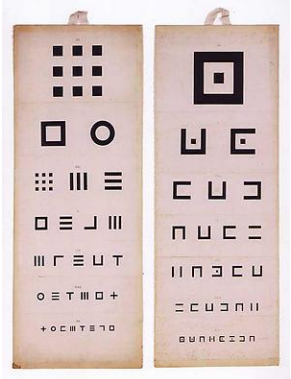
Prof. Dr. H. Snellen.











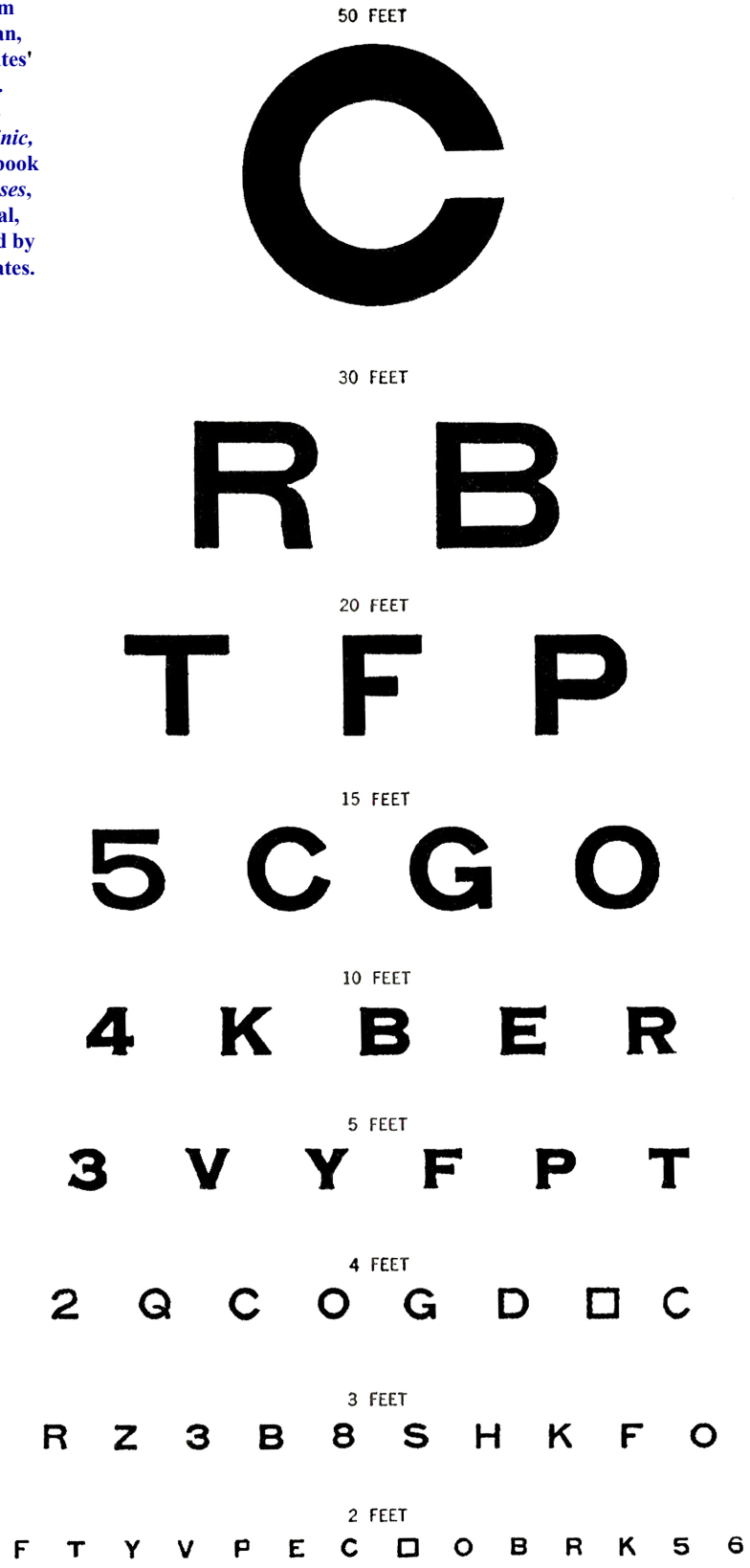
Simple symbols also remove effort by being familiar. Familiar objects, shapes are relaxing to the mind, eyes when the vision is being tested in the doctor's office.

No effort=no strain=the chart is seen clear with the person's true state of vision. Glasses are avoided.

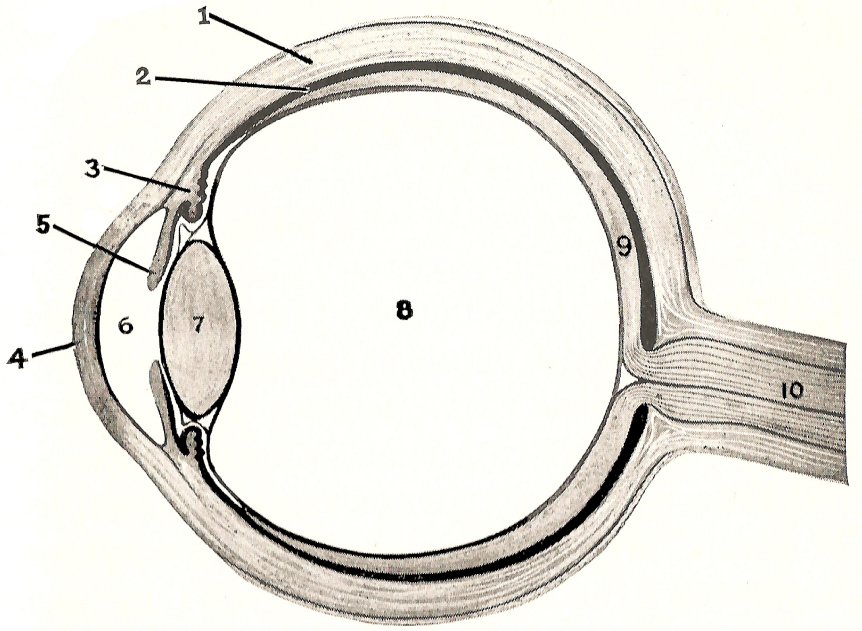
The eyes *vision* move quick, easily over the letters.

Original Big C Test Card 'Eyechart' that Dr. William H. Bates, Emily C. Lierman, A. Bates refer to in Dr. Bates' Better Eyesight Magazine.

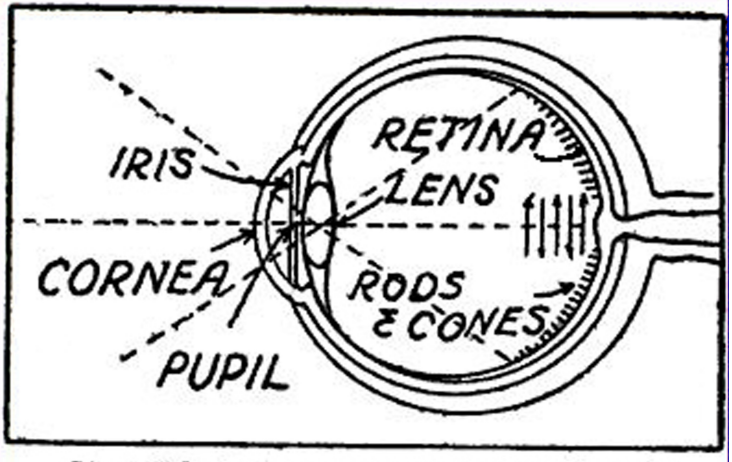
Chart placed in Emily's book *Stories From The Clinic,* year 1926 and Dr. Bates' book *Perfect Sight Without Glasses*, year 1940, the final original, 9th print edition published by Dr. Bates and Emily A. Bates.



STRUCTURE OF HUMAN EYE



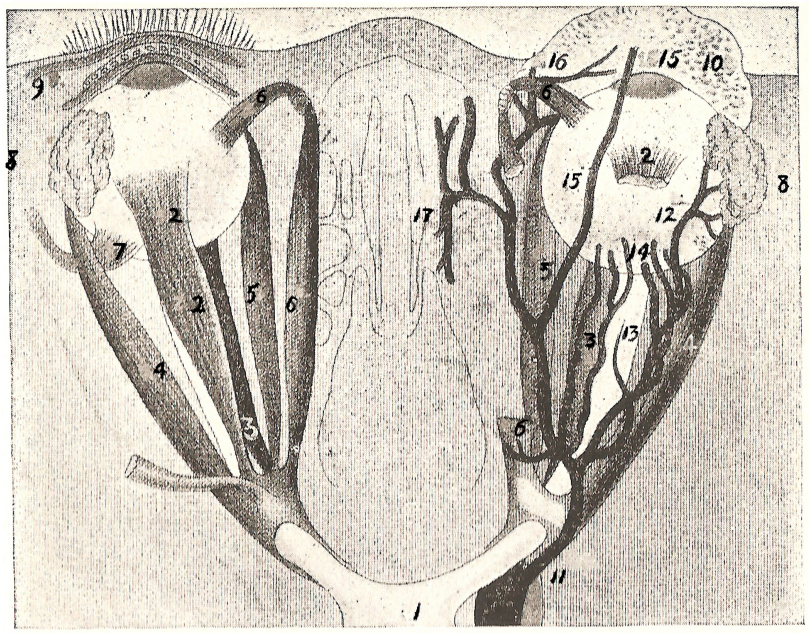
Horizontal and sectional view of the structure of the eye. (1) Sclerotic coat; (2) Choroid coat; (3) Ciliary body; (4) Cornea—the "watch glass" in front of the eyeball; (5) The iris; (6) Anterior chamber, containing aqueous humor; (7) Crystalline lens; the pupil is between 6 and 7; (8) Vitreous humor, filling the eyeball; (9) Retina; (10) Optic nerve.



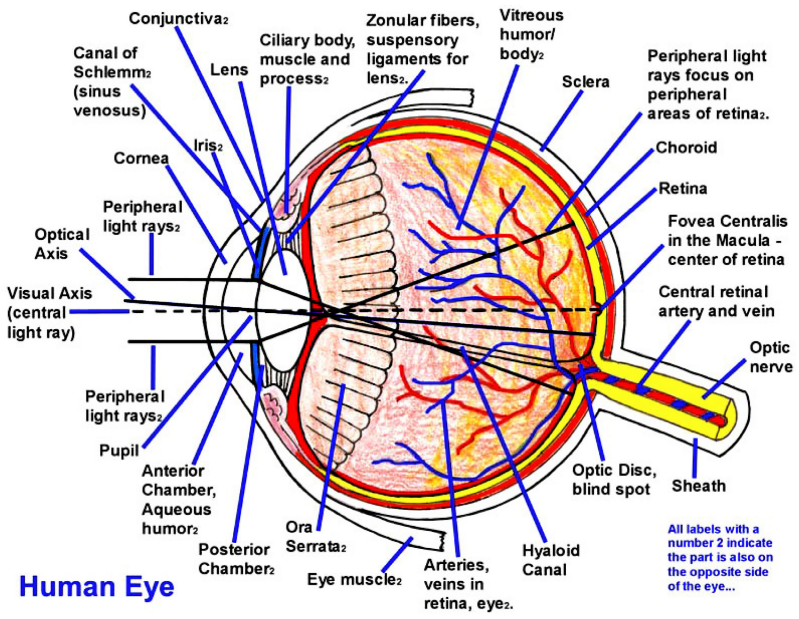
Simplified diagram, corresponding to figure on opposite page.

Old diagram shows the central ray on the optic disk. This is incorrect. The eye, rays are altered in some simplified diagrams. The true placement of the central ray is in the center of the macula, in the fovea. See next page for diagrams showing the true eye, central ray placement. Note; there are many more peripheral rays than are shown in the pictures.

STRENGTHENING THE EYES



View of eyeballs from above, showing the muscles and arteries. (1) Crossing of the optic nerve; (2) Superior rectus muscle; (3) Inferior rectus muscle; (4) External rectus muscle; (5) Internal rectus muscle; (6) Superior oblique muscle; (7) Inferior oblique muscle; (8) Lachrymal glands; (9) Eyelid in section; (10) Eyelid from inside; (11) Infra-orbital artery; (12) Branch to the tear gland; (13) Branch to the retina; (14) Branch to the iris; (15) Branch to the upper eyelid; (16) Branch to the eyebrow; (17) Branch to the cavity of the nose.



Human Eye

The visual and optical axis are drawn various ways in ophthalmology, optometry books due to; showing the left or right eye, the eye's position, where it is viewed from, simplification of the diagram. The Visual Axis 'central light ray' always travels to the fovea centralis.

Some pictures show the visual and optical axis as in the picture on the < left. This makes it easy to learn central-fixation. See the central light ray (visual axis) - - - . It originates from the part of the object the eyes are looking at and focuses on the fovea centralis-the central area of the retina. The fovea produces the clearest vision, the exact central field. The exact central field moves (shifts) continually from part to part on the object producing fine detailed perfect clear vision and brightest color. Precisely; it moves from one *tiny* part to another *tiny* part...

Most pictures show the visual axis ray traveling in a upward slant to the fovea, and the optical (optic) axis as a horizontal-level or slightly slanted line traveling to the area on the retina between the fovea and optic disc. A variety of functions occur with the axises, central and peripheral light rays... See pictures on pg. 8, 70 and 87.

When practicing central-fixation; Do not force the central ray to line up with the fovea. Let the eyes move freely. Just relax and face the part of the object you want to see. The central ray from the part of the object the eyes are looking directly at will *automatically* travel to the fovea. The fovea moves with the eyes causing the exact central field to move on each part of the object you look at, one small part at a time, moving from part to part producing perfect clear vision. Learn *Central-Fixation with Shifting* to see clearer than 20/20! Chap. XI - Pg. 114.

THE CURE OF IMPERFECT SIGHT BY TREATMENT WITHOUT GLASSES

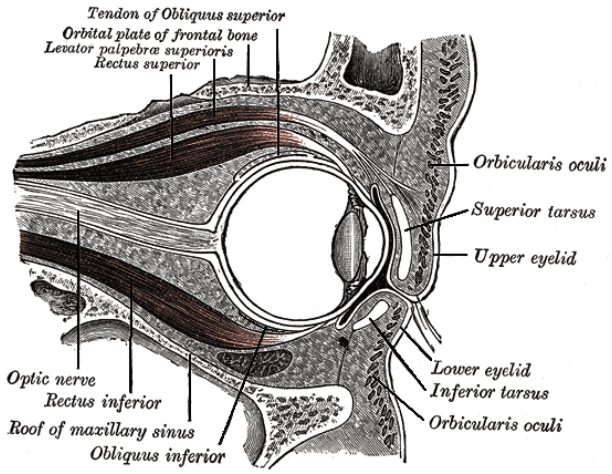
CHAPTER I

INTRODUCTORY

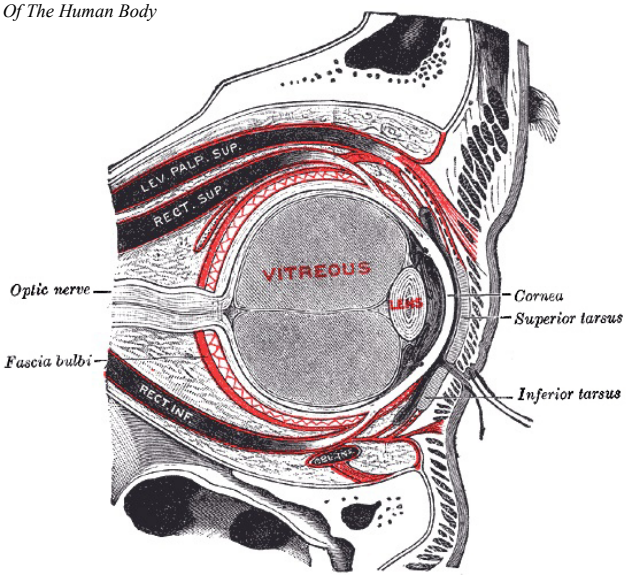
MOST writers on ophthalmology appear to believe that the last word about problems of refraction has been spoken, and from their viewpoint the last word is a very depressing one. Practically everyone in these days suffers from some form of refractive error. Yet we are told that for these ills, which are not only so inconvenient, but often so distressing and dangerous, there is not only no cure, and no palliative save those optic crutches known as eyeglasses, but, under modern conditions of life, practically no prevention.

It is a well-known fact that the human body is not a perfect mechanism. Nature, in the evolution of the human tenement, has been guilty of some maladjustments. She has left, for instance, some troublesome bits of scaffolding, like the vermiform appendix, behind. But nowhere is she supposed to have blundered so badly as in the construction of the eye. With one accord ophthalmologists tell us that the visual organ of man was never intended for the uses to which it is now put. Eons before there were any schools or printing presses, electric lights or moving pictures, its evolution was complete. In those days it served the needs of the human animal perfectly. Man was a hunter, a herdsman, a farmer, a fighter. He needed, we are told, mainly distant vision;

Pictures from; *Anatomy Of The Human Body*



Sagittal section of right orbital cavity.



The right eye in sagittal section, showing the fascia bulbi (semidiagrammatic). (Testut.)

and since the eye at rest is adjusted for distant vision, sight is supposed to have been ordinarily as passive as the perception of sound, requiring no muscular action whatever. Near vision, it is assumed, was the exception,

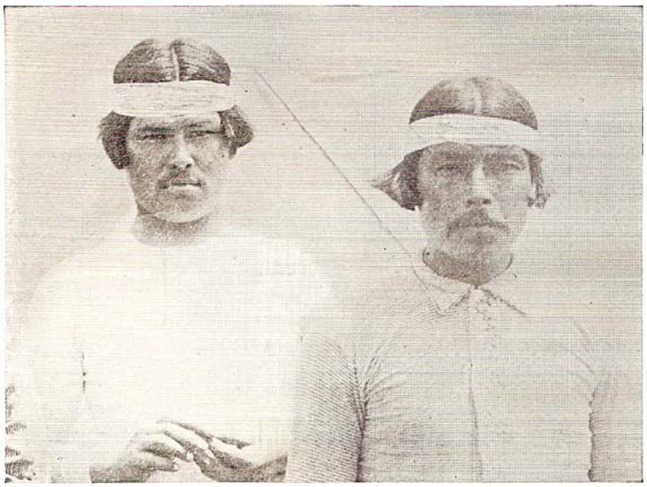
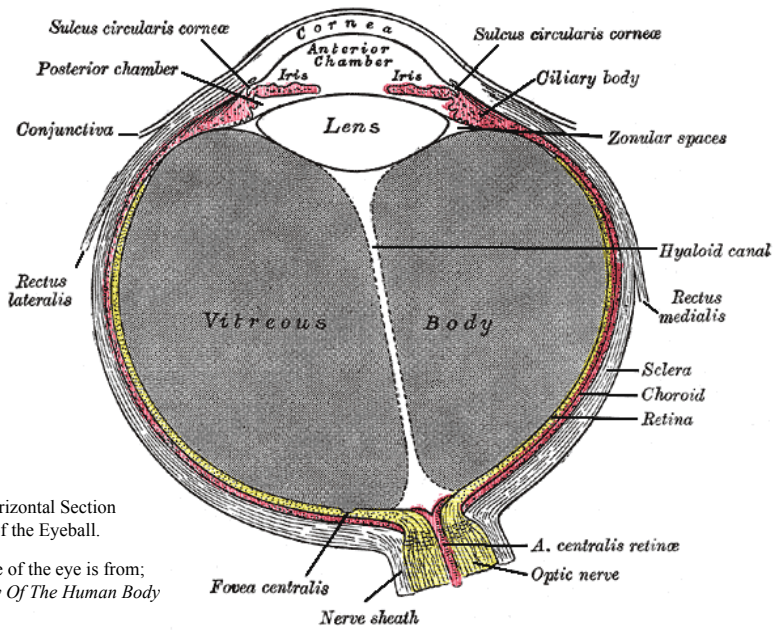


Fig. 1. Patagonians

The sight of this primitive pair and of the following groups of primitive people was tested at the World's Fair in St. Louis and found to be normal. The unaccustomed experience of having their pictures taken, however, has evidently so disturbed them that they were all, probably, myopic when they faced the camera. (see Chapter IX.)

necessitating a muscular adjustment of such short duration that it was accomplished without placing any appreciable burden upon the mechanism of accommodation. The fact that primitive woman was a seamstress, an embroiderer, a weaver, an artist in all sorts of fine and beautiful work, appears to have been generally forgotten. Yet



Horizontal Section of the Eyeball.

Picture of the eye is from; *Anatomy Of The Human Body*

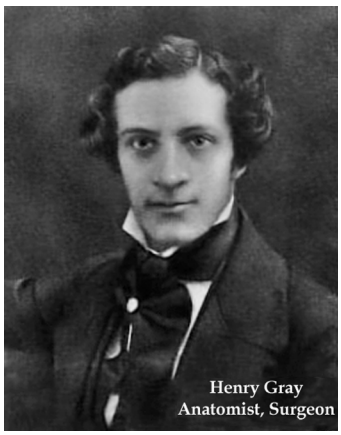
Picture below; *Horizontal Section of the Eyeball* is from the Antique Medical book;

Anatomy - Descriptive and Surgical - 1858. By Henry Gray, F.R.S., Anatomist, Surgeon, Artist. Lecturer On Anatomy At Saint George's Hospital Medical School.
London, England and USA Editions.

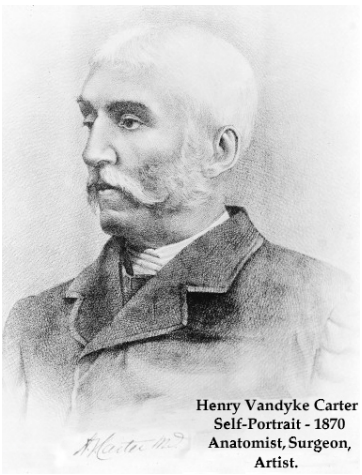
The Drawings By; Henry Vandyke Carter, M.D. Anatomist, Surgeon, Artist.

The Dissections Jointly By The Author Henry Gray and Dr. Henry Carter.

20th Edition in 1918; Anatomy Of The Human Body (Book's Nickname; *Gray's Anatomy*). 1396 pages. Illustrated with 1247 Engravings-pictures of the body, bones, blood vessels, nerves, lymph, organs, brain, eyes, ears... Many doctors contributed.
Twentieth Edition Thoroughly Revised and Re-Edited by Warren H. Lewis, B.S., M.D. Professor Of Physiological Anatomy, Johns Hopkins University, Baltimore, MD.
Many new editions to present date 2015+. Each new edition adds more pictures, new medical subjects, discoveries, is updated as medicine, surgery advances. Book is still used by medical students, doctors along with modern medical-anatomy books, diagrams.
Book is Public Domain; free on medical, educational websites and GoogleBooks.



Henry Gray
Anatomist, Surgeon



Henry Vandyke Carter
Self-Portrait - 1870
Anatomist, Surgeon, Artist.

women living under primitive conditions have just as good eyesight as the men.

When man learned how to communicate his thoughts to others by means of written and printed forms, there came some undeniably new demands upon the eye, af-

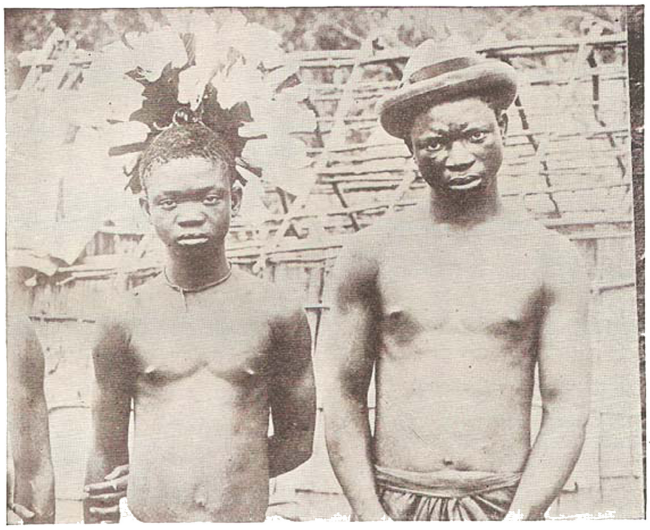
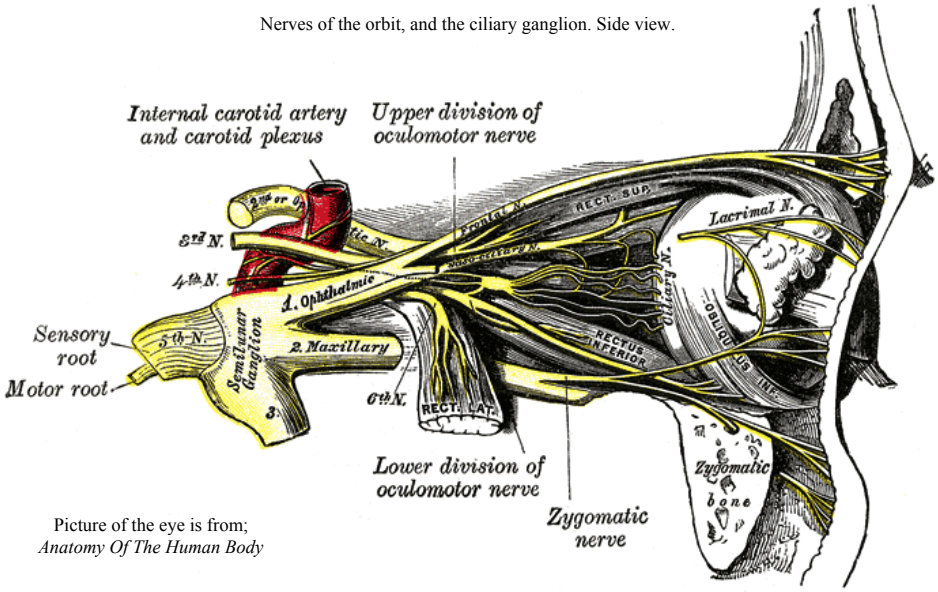


Fig. 2. African Pigmies

They had normal vision when tested, but their expressions show that they could not have had it when photographed.

fecting at first only a few people, but gradually including more and more, until now, in the more advanced countries, the great mass of the population is subjected to their influence. A few hundred years ago even princes were not taught to read and write. Now we compel everyone to go to school. whether he wishes to or not,

Nerves of the orbit, and the ciliary ganglion. Side view.



Picture of the eye is from;
Anatomy Of The Human Body

even the babies being sent to kindergarten. A generation or so ago books were scarce and expensive. To-day, by means of libraries of all sorts, stationary and traveling, they have been brought within the reach of practically everyone. The modern newspaper, with its endless columns of badly printed reading matter, was made possible only by the discovery of the art of manufacturing paper from wood, which is a thing of yesterday. The tallow candle has been but lately displaced by the various forms of artificial lighting, which tempt most of us to prolong our vocations and avocations into hours when primitive man was forced to rest, and within the last couple of decades has come the moving picture to complete the supposedly destructive process.

Was it reasonable to expect that Nature should have provided for all these developments, and produced an organ that could respond to the new demands? It is the accepted belief of ophthalmology to-day that she could not and did not,[1] and that, while the processes of civilization depend upon the sense of sight more than upon any other, the visual organ is but imperfectly fitted for its tasks.

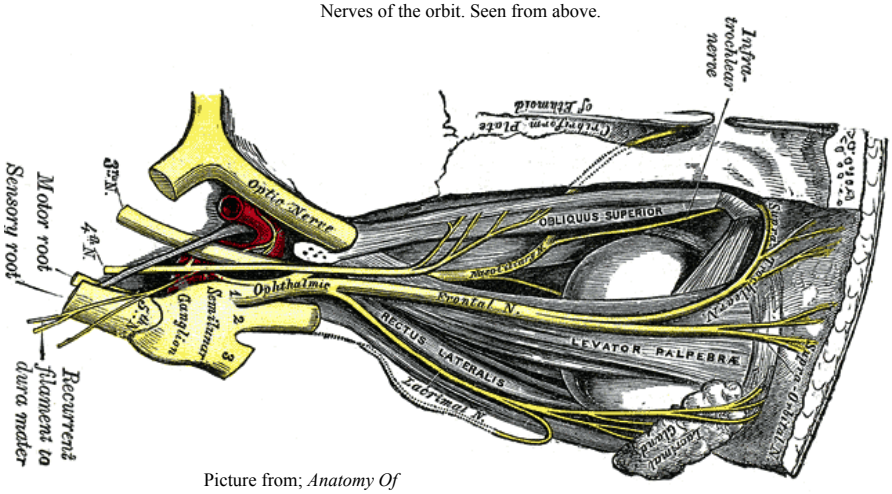
There are a great number of facts which seem to justify this conclusion. While primitive man appears to have suffered little from defects of vision, it is safe to say that

[1] The unnatural strain of accommodating the eyes to close work (for which they were not intended) leads to myopia in a large proportion of growing children.—Rosenau: Preventive Medicine and Hygiene, third edition, 1917, p. 1093.

The compulsion of fate as well as an error of evolution has brought it about that the unaided eye must persistently struggle against the astonishing difficulties and errors inevitable in its structure, function and circumstance.—Gould: The Cause, Nature and Consequences of Eyestrain, Pop. Sci. Monthly, Dec., 1905.

With the invention of writing and then with the invention of the printing-press a new element was introduced, and one evidently not provided for by the process of evolution. The human eye which had been evolved for distant vision is being forced to perform a new part, one for which it had not been evolved, and for which it is poorly adapted. The difficulty is being daily augmented.—Scott: The Sacrifice of the Eyes of School Children, Pop. Sci. Monthly, Oct., 1907.

Nerves of the orbit. Seen from above.



Picture from; *Anatomy Of The Human Body*

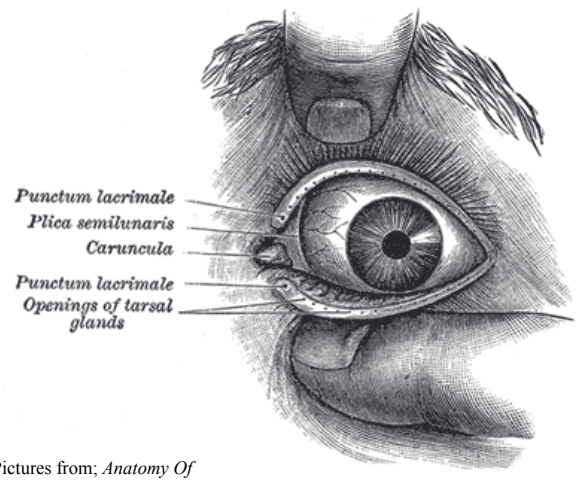
of persons over twenty-one living under civilized conditions nine out of every ten have imperfect sight, and as the age increases the proportion increases, until at forty it is almost impossible to find a person free from visual defects. Voluminous statistics are available to prove these assertions, but the visual standards of the modern army [1] are all the evidence that is required.

In Germany, Austria, France and Italy the vision with glasses determines acceptance or rejection for military service, and in all these countries more than six diopters[2] of myopia are allowed, although a person so handicapped cannot, without glasses, see anything clearly at more than six inches from his eyes. In the German Army a recruit for general service is required—or was required under the former government—to have a corrected vision of 6/12 in one eye. That is, he must be able to read with this eye at six metres the line normally read at twelve metres. In other words, he is considered fit for military service if the vision of one eye can be brought up to one-half normal with glasses. The vision in the other eye may be minimal, and in the Landsturm one eye may be blind. Incongruous as the eyeglass seems upon the soldier, military authorities upon the European continent have come to the conclusion that a man with 6/12 vision wearing glasses is more serviceable than a man with 6/24 vision (one-quarter normal) without them.

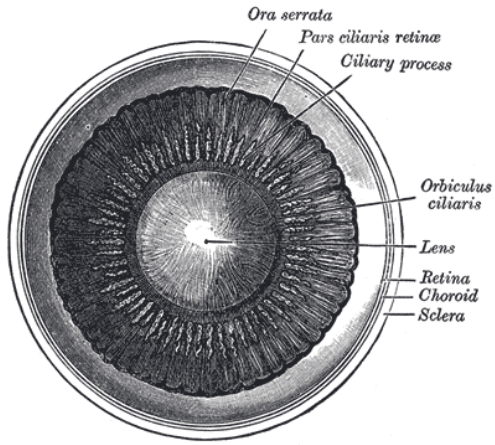
In Great Britain it was formerly uncorrected vision that determined acceptance or rejection for military service. This was probably due to the fact that previous to the recent war the British Army was used chiefly for

[1] Ford: Details of Military Medical Administration, published with the approval of the Surgeon General, U. S. Army, second revised edition, 1918, pp. 498-499.

[2] A diopter is the focussing power necessary to bring parallel rays to a focus at one metre.



Front of left eye with eyelids separated to show medial canthus.



Interior of anterior half of bulb of eye.

Pictures from; *Anatomy Of The Human Body*

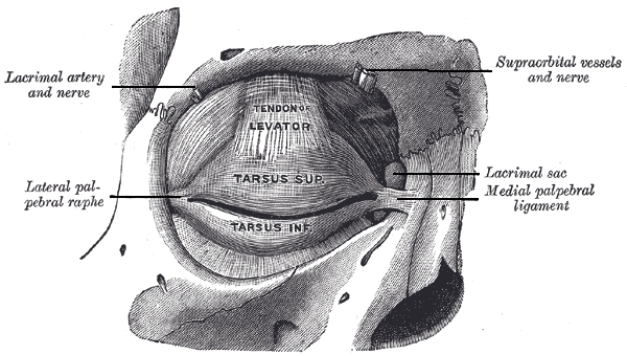
foreign service, at such distances from its base that there might have been difficulty in providing glasses. The standard at the beginning of the war was 6/24 (uncorrected) for the better eye and 6/60 (uncorrected) for the

Fig. 3—Moros from the Philippines

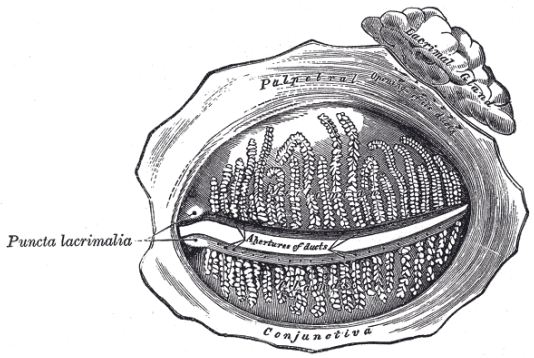
With sight ordinarily normal all were probably myopic when photographed except the one at the upper left whose eyes are shut.

poorer, which was required to be the left. Later, owing to the difficulty of securing enough men with even this moderate degree of visual acuity, recruits were accepted whose vision in the right eye could be brought up to 6/12 by correction, provided the vision of one eye was 6/24 without correction.[1]

[1] Tr. Ophth. Soc. U. Kingdom, vol. xxxviii, 1918, pp. 130-131.



The tarsi and their ligaments.
Right eye; front view.



The tarsal glands, etc., seen from the inner surface of the eyelids.

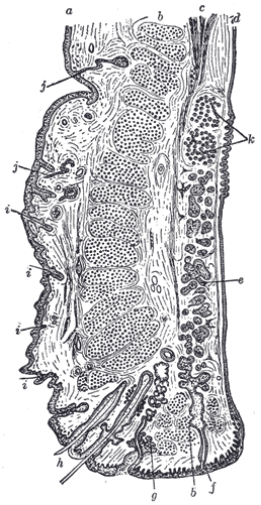
Pictures from; *Anatomy Of The Human Body*

Up to 1908 the United States required normal vision in recruits for its military service. In that year Bannister and Shaw made some experiments from which they concluded that a perfectly sharp image of the target was not necessary for good shooting, and that, therefore, a visual acuity of 20/40 (the equivalent in feet of 6/12 in metres), or even 20/70, in the aiming eye only, was sufficient to make an efficient soldier. This conclusion was not accepted without protest, but normal vision had become so rare that it probably seemed to those in authority that there was no use insisting upon it; and the visual standard for admission to the Army was accordingly lowered to 20/40 for the better eye and 20/100 for the poorer, while it was further provided that a recruit might be accepted when unable with the better eye to read all the letters on the 20/40 line, provided he could read some of the letters on the 20/30 line.[1]

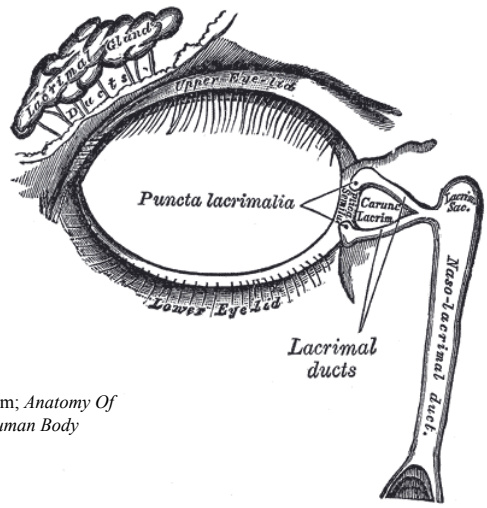
In the first enrollment of troops for the European war it is a matter of common knowledge that these very low standards were found to be too high and were interpreted with great liberality. Later they were lowered so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided that the sight of one eye could be brought up to 20/40 with glasses, while for limited service 20/200 in each eye was sufficient, provided the vision of one eye might be brought up to 20/40 with glasses.[2] Yet 21.68 per cent of all rejections in the first draft, 13 per cent more than for any other single cause, were for

[1] Harvard: Manual of Military Hygiene for the Military Services of the United States, published under the authority and with the approval of the Surgeon General, U. S. Army, third revised edition, 1917, p. 195.

[2] Standards of Physical Examination for the Use of Local Boards, District Boards, and Medical Advisory Boards under the Selective Service Regulations, issued through the office of the Provost Marshal General, 1918.



Sagittal section through the upper eyelid. (After Waldeyer.) a. Skin. b. Orbicularis oculi. b'. Marginal fasciculus of Orbicularis (ciliary bundle). c. Levator palpebræ. d. Conjunctiva. e. Tarsus. f. Tarsal gland. g. Sebaceous gland. h. Eyelashes. i. Small hairs of skin. Sweat glands. k. Posterior tarsal glands.



Pictures from; *Anatomy Of The Human Body*

The lacrimal apparatus. Right side.

eye defects,[1] while under the revised standards these defects still constituted one of three leading causes of rejection. They were responsible for 10.65 per cent of the rejections, while defects of the bones and joints and of the heart and blood-vessels ran, respectively, about two and two and a half per cent higher.[2]

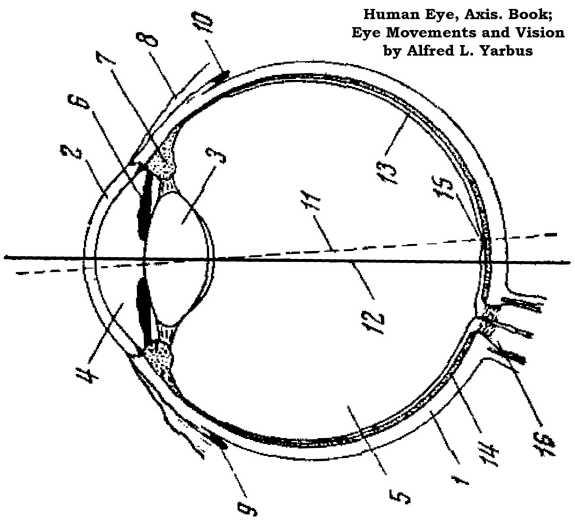
For more than a hundred years the medical profession has been seeking for some method of checking the ravages of civilization upon the human eye. The Germans, to whom the matter was one of vital military importance, have spent millions of dollars in carrying out the suggestions of experts, but without avail; and it is now admitted by most students of the subject that the methods which were once confidently advocated as reliable safeguards for the eyesight of our children have accomplished little or nothing. Some take a more cheerful view of the matter, but their conclusions are hardly borne out by the army standards just quoted.

For the prevailing method of treatment, by means of compensating lenses, very little was ever claimed except that these contrivances neutralized the effects of the various conditions for which they were prescribed, as a crutch enables a lame man to walk. It has also been believed that they sometimes checked the progress of these conditions; but every ophthalmologist now knows that their usefulness for this purpose, if any, is very limited. In the case of myopia[3] (shortsight), Dr. Sidler-Huguenin of Zurich, in a striking paper recently pub-

[1] Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.

[2] Second Report of the Provost Marshal General to the Secretary of War on the Operations of the Selective Service System to December 20, 1918.

[3] From the Greek *myein*, to close, and *ops*, the eye; literally a condition in which the subject closes the eye, or blinks.



Scheme of a horizontal section of the human right eye. 1) Sclera; 2) cornea; 3) lens; 4) anterior chamber of the eye; 5) vitreous; 6) iris; 7) ciliary muscle; 8) conjunctiva; 9) point of attachment of medial rectus muscle; 10) point of attachment of lateral rectus muscle; 11) visual axis of the eye; 12) optical axis of eye; 13) retina; 14) vascular membrane; 15) fovea centralis; 16) optic nerve.

A line passing through the center of the cornea and the center of the eye, the *optic axis* $O\,A$ (in diagram) does not pass exactly through the center of the lens, and does not fall into the point of most distinct vision, the fovea. This has led to the recognition of other lines, the relations of which must be borne in mind in all optical discussions.

1. The *visual axis*, or line of vision $V\,L$, is the line connecting the point viewed, the nodal point, and the fovea centralis.

2. The *line of fixation*, or *line of regard* $V\,C$, is the line connecting the point viewed with the *center of rotation*, the latter being situated 6 mm. behind the nodal point of the eye and 9 before the retina. The relations of these lines and certain angles in connection with them are shown in the following figure:

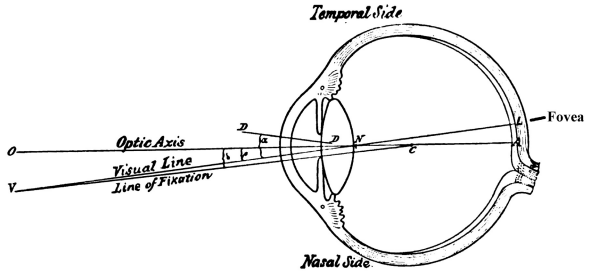


Diagram showing the corneal axis $D\,D$, the optic axis $O\,A$, the visual axis $V\,L$, and the line of fixation $V\,C$; also the three angles α, β, γ.

The angle included between the line $D\,D$ (the major axis of the corneal ellipse) and the visual line is the *angle alpha*, amounting, on the average, to about 5°. The angle included between the optic axis and the line of regard is known as the *angle gamma*, while the angle between the optic axis and the line of vision is known as the *angle beta*.

lished,[1] expresses the opinion that glasses and all methods now at our command are "of but little avail" in preventing either the progress of the error of refraction, or the development of the very serious complications with which it is often associated.

These conclusions are based on the study of thousands of cases in Dr. Huguenin's private practice and in the clinic of the University of Zurich, and regarding one group of patients, persons connected with the local educational institutions, he states that the failure took place in spite of the fact that they followed his instructions for years "with the greatest energy and pertinacity," sometimes even changing their professions.

I have been studying the refraction of the human eye for more than thirty years, and my observations fully confirm the foregoing conclusions as to the uselessness of all the methods heretofore employed for the prevention and treatment of errors of refraction. I was very early led to suspect, however, that the problem was by no means an unsolvable one.

Every ophthalmologist of any experience knows that the theory of the incurability of errors of refraction does not fit the observed facts. Not infrequently such cases recover spontaneously, or change from one form to another. It has long been the custom either to ignore these troublesome facts, or to explain them away, and fortunately for those who consider it necessary to bolster up the old theories at all costs, the rôle attributed to the lens in accommodation offers, in the majority of cases, a plausible method of explanation. According to this

[1] Archiv. f. Augenh, vol. lxxix, 1915, translated in Arch. Ophth., vol. xlv, No. 6, Nov., 1916.

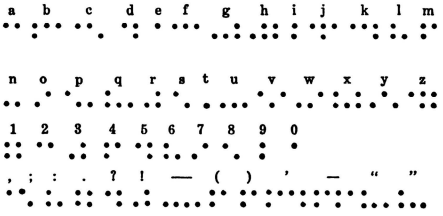
ILLUSTRATION OF ALPHABETS IN RAISED PRINT USED BY THE BLIND

1. Line Type

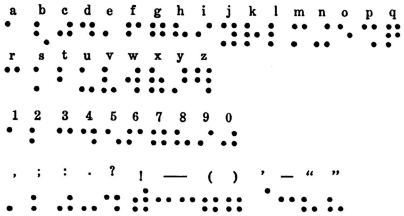
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

2. Moon Type

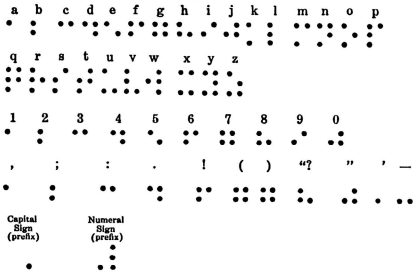
3. New York Point



4. American Braille



5. Revised Braille (English Braille)



theory, which most of us learned at school, the eye changes its focus for vision at different distances by altering the curvature of the lens; and in seeking for an explanation for the inconstancy of the theoretically constant error of refraction the theorists hit upon the very ingenious idea of attributing to the lens a capacity for changing its curvature, not only for the purpose of normal accommodation, but to cover up or to produce accommodative errors. In hypermetropia[1]—commonly but improperly called farsight, although the patient with such a defect can see clearly neither at the distance nor the nearpoint—the eyeball is too short from the front backward, and all rays of light, both the convergent ones * coming from near objects, and the parallel ones coming from distant objects, are focussed behind the retina, instead of upon it. In myopia it is too long, and while the divergent rays from near objects come to a point upon the retina, the parallel ones from distant objects do not reach it. Both these conditions are supposed to be permanent, the one congenital, the other acquired. When, therefore, persons who at one time appear to have hypermetropia, or myopia, appear at other times not to have them, or to have them in lesser degrees, it is not permissible to suppose that there has been a change in the shape of the eyeball. Therefore, in the case of the disappearance or lessening of hypermetropia, we are asked to believe that the eye, in the act of vision, both at the near-point and at the distance, increases the curvature of the lens sufficiently to compensate, in whole or in part, for the flatness of the eyeball. In myopia, on the

[1] From the Greek *hyper*, over, *metron*, measure, and *ops*, the eye.

*** Note; Light rays from near objects are divergent. They spread outward. (Near = objects at about 19 feet and closer.) The closer the object is, the more the light rays diverge, and the more the eyes must accommodate and converge to focus the rays in the eye.) See page 323.**

Dr. Bates, Emily kept this page as it is here in the final 1940 original edition; *"and all rays of light, both the convergent ones coming from near objects, and the parallel ones coming from distant objects,.."*

Is the sentence a misprint or needs clarification? I have 14 copies of Dr. Bates original antique book in green, red and maroon (might be the entire 9 editions) The sentence is the same in all 14 books.

Dr. Bates might be speaking of divergent near object light rays that have been converged correctly inside a normal shaped eye with clear close and far vision by the eyeball and it's cornea, lens.

Or; he could be speaking of divergent near object light rays that have been converged incorrectly inside the farsighted eye with unclear vision by the abnormal shortened eyeball and it's cornea, lens.

Note that he states; *"divergent rays from near objects"* when speaking about myopia. When speaking about the farsighted eye, does he mean; light rays from near objects appear, act different in the farsighted eye (short) eyeball? Does he mean the rays outside or inside the eye?

The farther away a light source is (the sun...), the more parallel are the beams of light. Light rays from far objects are 'basically' considered parallel. Optometry, optics books also show far object rays with some convergence. The cornea, lens, eye converges far and close light rays in the normal eye, in the farsighted and myopia eye. See pictures next page.

contrary, we are told that the eye actually goes out of its way to produce the condition, or to make an existing condition worse. In other words, the so-called "ciliary

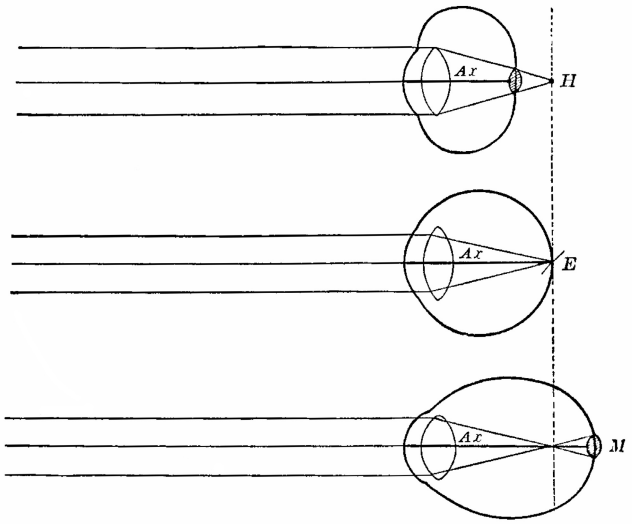


Fig. 4. Diagram of the Hypermetropic, Emmetropic and Myopic Eyeballs

H, hypermetropia; E, emmetropia; M, myopia; Ax, optic axis. Note that in hypermetropia and myopia the rays, instead of coming to a focus, form a round spot upon the retina.

muscle," believed to control the shape of the lens, is credited with a capacity for getting into a more or less continuous state of contraction, thus keeping the lens continuously in a state of convexity which, according

Optometry, Ophthalmology books simplify some pictures of the eye. Note; in an older simplified eye diagram from an early edition of the book 'Strengthening the Eyes' (see page after the C eyechart, beginning of the book, bottom picture); notice the central light ray appears to focus on the optic disc area of the retina. In reality, it focuses on the center of the fovea centralis in the center of the macula-retina producing the exact central field of vision. The basis, cause of Central-Fixation. (pg. 114) Modern teachers call it central, macula or fovea vision, 'centralizing'... to help the student to avoid thinking central-fixation means to fix the eyes, (mental-visual attention) immobile on an object, part. Immobility causes blurry vision. The eyes, mind must avoid staring, 'immobility', strain, tension, *effort to see.* The eyes (fovea) must shift *move* part to part on a object to see it clear. The entire visual field moves. Don't concentrate on the eyes. Think of the vision 'where you are looking'. Get your mind out into the world. Blink, Move, Relax. The eyes' fovea in the center of the macula moves 'shifts' continually 'point to point'. This occurs automatic, effortlessly. See Pg. 159+ and Yarbus. It moves over objects, parts of objects. It is the central field of vision created by the fovea that moves directly on the part of the object you want to see. (The two eyes central fields create one central field) The variety of movements 'shifts' of the eyes are many; fast and slower long shifts, small and tiny shifts, hundreds... *70 shifts per second and faster*, including many rapid small and microscopic shifts; 'saccades', high frequency shifts, optical drift.., a healthy relaxed vibration of the retinal nerves, especially in the center of the retina, fovea producing very clear fine detailed vision. The central area of the retina contains the most cones 'light receptors' that produce perfect clear, fine detailed, 'better than 20/20' vision with bright color. The central area of the retina produces the central field of vision, which (due to the many cones) is the clearest area of the visual field. It moves with the eyes as the eyes shift from object to object and part to part on a object and on tiny parts. The word 'centralizing' is helpful; it keeps the image, feeling of movement 'eyes-vision shifting' with central-fixation in the mind. This prevents staring, tension, becoming frozen, stuck on a object 'trying hard to see it'. Move, relax, move! The word fixation is good if thought of as 'Fixations'; the point of fixation (where the eyes' fovea is looking) changes continually, moving from fixation to fixation 'point to point' as the eyes, mental-visual attention shifts 'moves' upon a object and throughout the scenery object to object. The clarity and function of the peripheral field is at it's best when central-fixation, movement and relaxation occur. The brain receives perfect information from all areas of the visual field. Constant practice of shifting point to point is not necessary. It occurs naturally as the vision moves over a object, over parts of the object and small, tiny parts; the fixations will occur on their own. Practice shifting, centralizing. Then don't practice. Just relax and enjoy, be interested in the things you look at. The mind will move the eyes (central field) *automatically* to objects and parts of objects you choose to look at. The eyes also move with the mind's thoughts about the object and; imagination, memories of, reactions to it and related objects or other things, events... The automatic tiny saccades, optical drift... also occur. Completely natural relaxed eye-vision movement.

In the pictures above; the middle line is the central ray. It goes straight to the fovea centralis-center of the retina. Outer 2 rays are peripheral.

Entire directions for central-fixation, shifting.., pictures of the eyes, light rays, retina, eye muscles are throughout the book and on the final pages.

Old Simplified Pictures of Myopia, Farsighted Eyes.

This picture should also show that the Myopia-Nearsighted eye is usually abnormally lengthened from front to back.

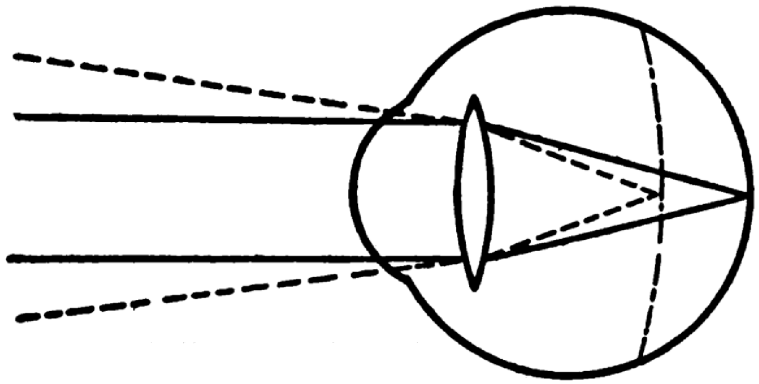


Diagram illustrating myopia or near-sightedness, rays of light from a distance falling in front of the retina.

This picture should also show that the Farsighted eye is usually abnormally shortened from front to back.

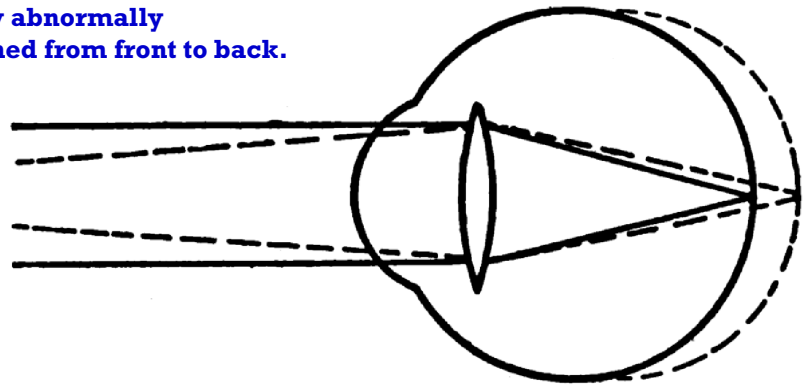


Diagram illustrating hypermetropia, or far-sightedness, light rays from nearby points being focused behind the retina.

Astigmatism occurs when the eye, cornea and sometimes lens' shape is uneven, irregular. The eye may also be abnormally short and/or long. All of these conditions are caused by outer and sometimes inner eye muscle tension. Eyeglasses, contact lenses maintain, increase the tension, abnormal eye shape.

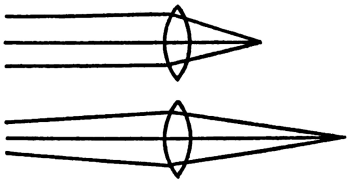
to the theory, it ought to assume only for vision at the near-point. These curious performances may seem unnatural to the lay mind; but ophthalmologists believe the tendency to indulge in them to be so ingrained in the constitution of the organ of vision that, in the fitting of glasses, it is customary to instill atropine—the "drops" with which everyone who has ever visited an oculist is familiar—into the eye, for the purpose of paralyzing the ciliary muscle and thus, by preventing any change of curvature in the lens, bringing out "latent hypermetropia" and getting rid of "apparent myopia."

The interference of the lens, however, is believed to account for only moderate degrees of variation in errors of refraction, and that only during the earlier years of life. For the higher ones, or those that occur after forty-five years of age, when the lens is supposed to have lost its elasticity to a greater or less degree, no plausible explanation has ever been devised. The disappearance of astigmatism,[1] or changes in its character, present an even more baffling problem. Due in most cases to an unsymmetrical change in the curvature of the cornea, and resulting in failure to bring the light rays to a focus at any point, the eye is supposed to possess only a limited power of overcoming this condition; and yet astigmatism comes and goes with as much facility as do other errors of refraction. It is well known, too, that it can be produced voluntarily. Some persons can produce as much as three diopters. I myself can produce one and a half.

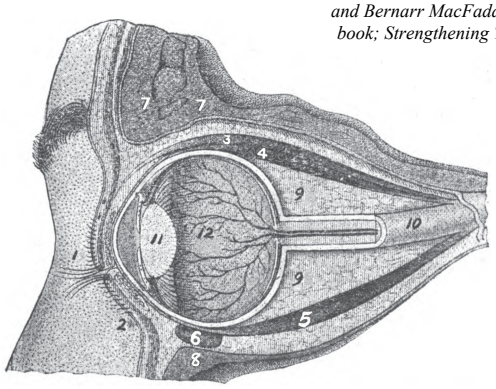
Examining 30,000 pairs of eyes a year at the New York Eye and Ear Infirmary and other institutions, I observed

[1] From the Greek *a*, without, and *stigma*, a point.

Pictures from; *Dr. William H. Bates and Bernarr MacFadden's 1918 book; Strengthening The Eyes.*



Illustrating the refraction of rays of light from distant and nearby points. The parallel rays, from a distant point, are concentrated at a point much closer to the lens than the divergent rays from a nearby point, which are focused further back. This is also demonstrated by the familiar experience of focusing light rays in a camera.



Section through the right eye. (1) Upper eyelid; (2) Lower eyelid; (3) Eyelid lifting muscle; (4) Superior rectus muscle; (5) Inferior rectus muscle; (6) Inferior oblique muscle; (7) Frontal bone; (8) Superior maxillary bone; (9) Fat; (10) Optic nerve; (11) Crystalline lens; (12) Vitreous humor.

many cases in which errors of refraction either recovered spontaneously, or changed their form, and I was unable either to ignore them, or to satisfy myself with

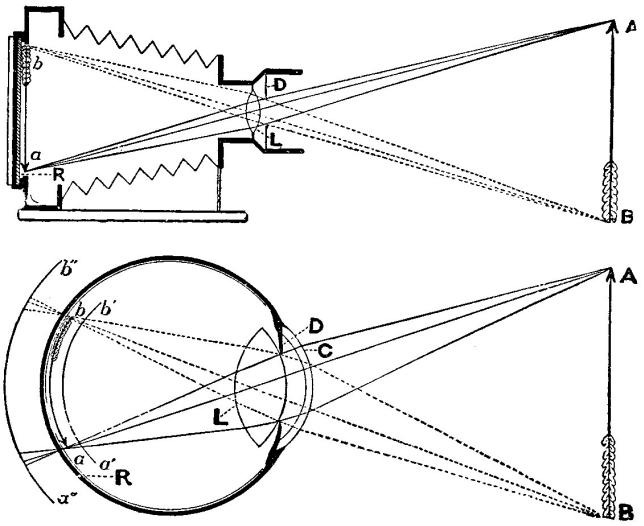
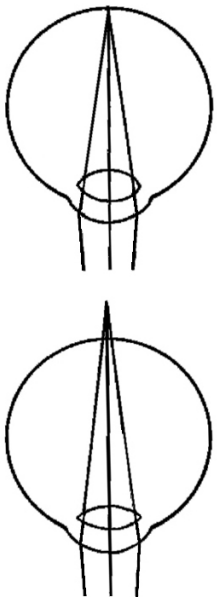


Fig. 5. The Eye As a Camera

The photographic apparatus; D, diaphragm made of circular overlapping plates of metal by means of which the opening through which the rays of light enter the chamber can be enlarged or contracted; L, lens; R, sensitive plate (the retina of the eye ; AB, object to be photographed; ab, image on the sensitive plate.

The eye: C, cornea where the rays of light undergo a first refraction; D, iris (the diaphragm of the camera); L, lens, where the light rays are again refracted; R, retina of the normal eye; AB, object of vision; ab, image in the normal or emmetropic eye; a′ b′, image in the hypermetropic eye; a″ b″, image in the myopic eye. Note that in a′ b′ and a″ b″, the rays are spread out upon the retina instead of being brought to a focus as in ab, the result being the formation of a blurred image.

Most Eye Doctors State the Lens Changes Shape to Produce Accommodation - Clear Close Vision



Looking at a close distance. Accommodation. Lens is thicker, wider, set for close distance. Light rays focused, on the retina, vision clear.

Looking at a close distance. No Accommodation. Lens is thin, set for far distance. Light rays unfocused, past the retina, vision unclear.

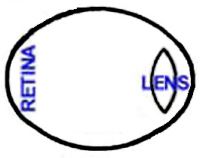
Dr. Bates and modern eye doctors state; the eye lengthens as the lens thickens when looking at close distances. See picture below.

Dr. Bates states; Only the eyeball accommodates, by lengthening like a camera to produce clear close and reading vision. He states that the lens does not change shape.

ROUND EYE FOCUSING ON DISTANT OBJECT

THE EYE REMAINS IN A ROUND SHAPE TO FOCUS CLEAR ON DISTANT OBJECTS. THE HUMAN EYE CAN SEE SMALL FINE DETAILS CLEAR ON OBJECTS AT FAR DISTANCES.

LENGTHENED EYE FOCUSING ON CLOSE OBJECT



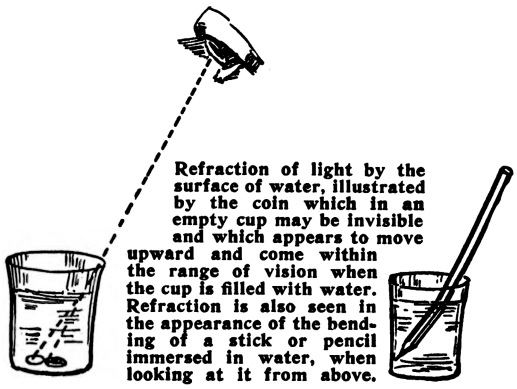
Eye length is exaggerated for easy view in the picture. Actual lengthening for close and reading vision is slight.

THE OBLIQUE MUSCLES CONTRACT TO SLIGHTLY LENGTHEN THE EYE , INCREASE THE DISTANCE BETWEEN THE LENS AND RETINA TO ACCOMMODATE, FOCUS LIGHT RAYS FROM CLOSE OBJECTS ON THE RETINA FOR CLEAR CLOSE VISION.
THE HUMAN EYE CAN PRODUCE MICROSCOPIC VISION, MAGNIFICATION OF SMALL FINE DETAILS ON CLOSE OBJECTS, SEE VERY SMALL PARTS CLEAR.

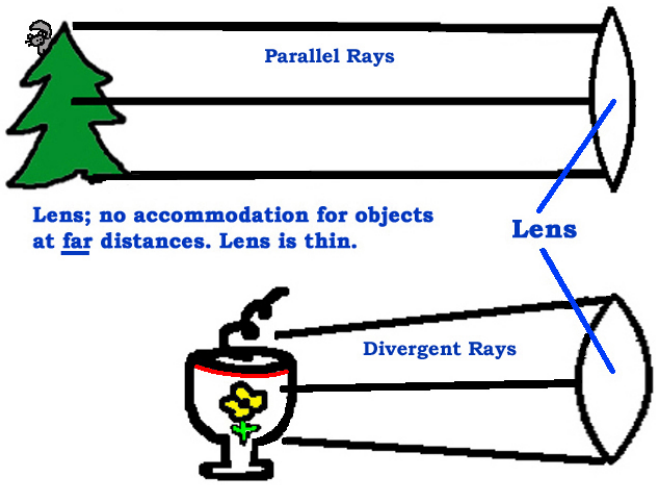
the orthodox explanations, even where such explanations were available. It seemed to me that if a statement is a truth it must always be a truth. There can be no exceptions. If errors of refraction are incurable, they should not recover, or change their form, spontaneously.

In the course of time I discovered that myopia and hypermetropia, like astigmatism, could be produced at will; that myopia was not, as we have so long believed, associated with the use of the eyes at the near-point, but with a strain to see distant objects, strain at the near-point being associated with hypermetropia; that no error of refraction was ever a constant condition; and that the lower degrees of refractive error were curable, while higher degrees could be improved.

In seeking for light upon these problems I examined tens of thousands of eyes, and the more facts I accumulated the more difficult it became to reconcile them with the accepted views. Finally, about half a dozen years ago, I undertook a series of observations upon the eyes of human beings and the lower animals the results of which convinced both myself and others that the lens is not a factor in accommodation, and that the adjustment necessary for vision at different distances is affected in the eye, precisely as it is in the camera, by a change in the length of the organ, this alteration being brought about by the action of the muscles on the outside of the globe. Equally convincing was the demonstration that errors of refraction, including presbyopia, are due, not to an organic change in the shape of the eyeball, or in the constitution of the lens, but to a functional and therefore curable derangement in the action of the extrinsic muscles.



Refraction of light by the surface of water, illustrated by the coin which in an empty cup may be invisible and which appears to move upward and come within the range of vision when the cup is filled with water. Refraction is also seen in the appearance of the bending of a stick or pencil immersed in water, when looking at it from above.



The orthodox eye doctor's lens shape change theory on the right > states; "*The lens thickens-lengthens to accommodate-focus divergent light rays from near objects onto the retina for clear close vision*".

This is similar to Dr. Bates' statement; "the eyeball lengthens to produce accommodation". He states he proved this is a fact. Modern eye doctors state technology has proven their lens statement is a fact.

They also discovered; "*the eyeball lengthens with the lens as the lens accommodates*". But, the doctors continue to refuse to admit the eyeball also produces accommodation. They prefer to hide Dr. Bates' method.

In making these statements I am well aware that I am controverting the practically undisputed teaching of ophthalmological science for the better part of a century;

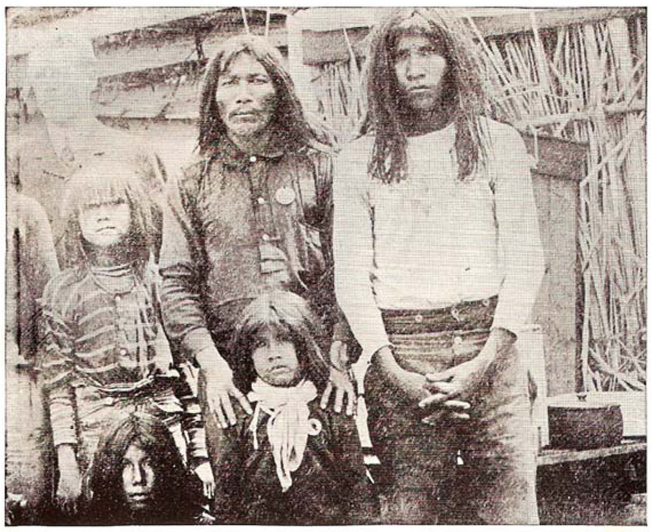
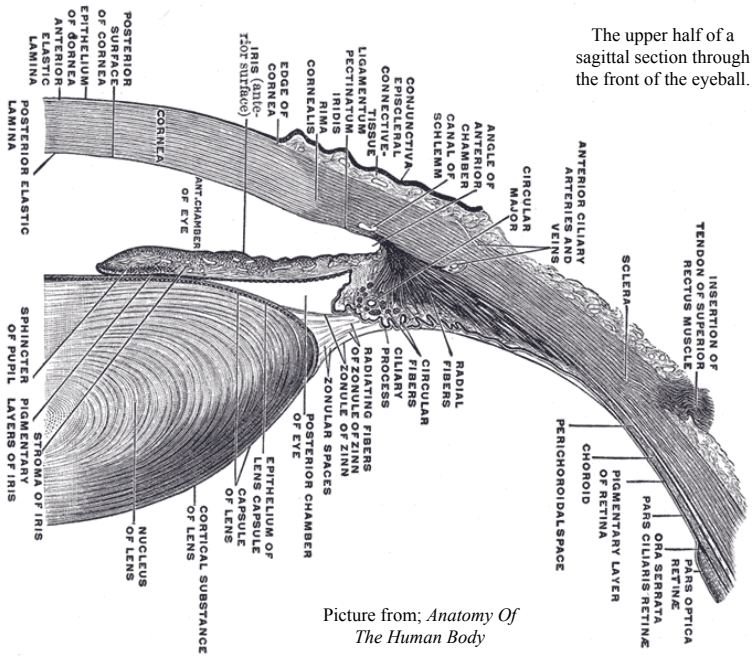


Fig. 6. Mexican Indians

With normal sight when tested all the members of this primitive group are now either squinting or staring.

but I have been driven to the conclusions which they embody by the facts, and that so slowly that I am now surprised at my own blindness. At the time I was improving high degrees of myopia; but I wanted to be conservative, and I differentiated between functional myopia,



The upper half of a sagittal section through the front of the eyeball.

Picture from; *Anatomy Of The Human Body*

which I was able to cure, or improve, and organic myopia, which, in deference to the orthodox tradition, I accepted as incurable.

Fig. 7. Ainus, the Aboriginal Inhabitants of Japan
All show signs of temporary imperfect sight

Native Americans had perfect eyesight and health before they were forced into being part of certain aspects of the white nationality's culture, diet, work, schools, religion and were robbed of their home and hunting territories. *They are tricked into wearing glasses by people that sell eyeglasses*. I also notice this happening to the Spanish culture; many children, youth from Mexico, Puerto Rico... are coerced into wearing the addictive eyeglass. Modern Native Americans continue to preserve their original heritage, way of life and refuse to accept other culture's actions that are destructive to the mind, body, spirit and Mother Earth. A Native American Chief would make a great U.S. President. Unfortunately, other culture's wealthy businesses own the government, politicians, media. Practice of TRUE Native American diet, spirituality... improves health on all levels, including the eyesight. Red Crow Westerman, Dakota Sioux, is one of many Native Americans preserving their heritage. Singer, actor. Red Crow videos; https://www.youtube.com/watch?v=iI6RLXQyGIw Indigenous Native American Prophecy- Elders Speak, part 1; https://www.youtube.com/watch?v=g7cylfQtkDg https://www.youtube.com/watch?v=O6XSY6tbpAQ American Indian Activist Russell Means; https://www.youtube.com/watch?v=xVANRroxuOo

CHAPTER II

SIMULTANEOUS RETINOSCOPY

MUCH of my information about the eyes has been obtained by means of simultaneous retinoscopy. The retinoscope is an instrument used to measure the refraction of the eye. It throws a beam of light into the pupil by reflection from a mirror, the light being either outside the instrument—above and behind the subject—or arranged within it by means of an electric battery. On looking through the sight-hole one sees a larger or smaller part of the pupil filled with light, which in normal human eyes is a reddish yellow, because this is the color of the retina, but which is green in a cat's eye, and might be white if the retina were diseased. Unless the eye is exactly focussed at the point from which it is being observed, one sees also a dark shadow at the edge of the pupil, and it is the behavior of this shadow when the mirror is moved in various directions which reveals the refractive condition of the eye. If the instrument is used at a distance of six feet or more, and the shadow moves in a direction opposite to the movement of the mirror, the eye is myopic. If it moves in the same direction as the mirror, the eye is either hypermetropic or normal; but in the case of hypermetropia the movement is more pronounced than in that of normality, and an expert can usually tell the difference between the two states merely by the nature of the move-

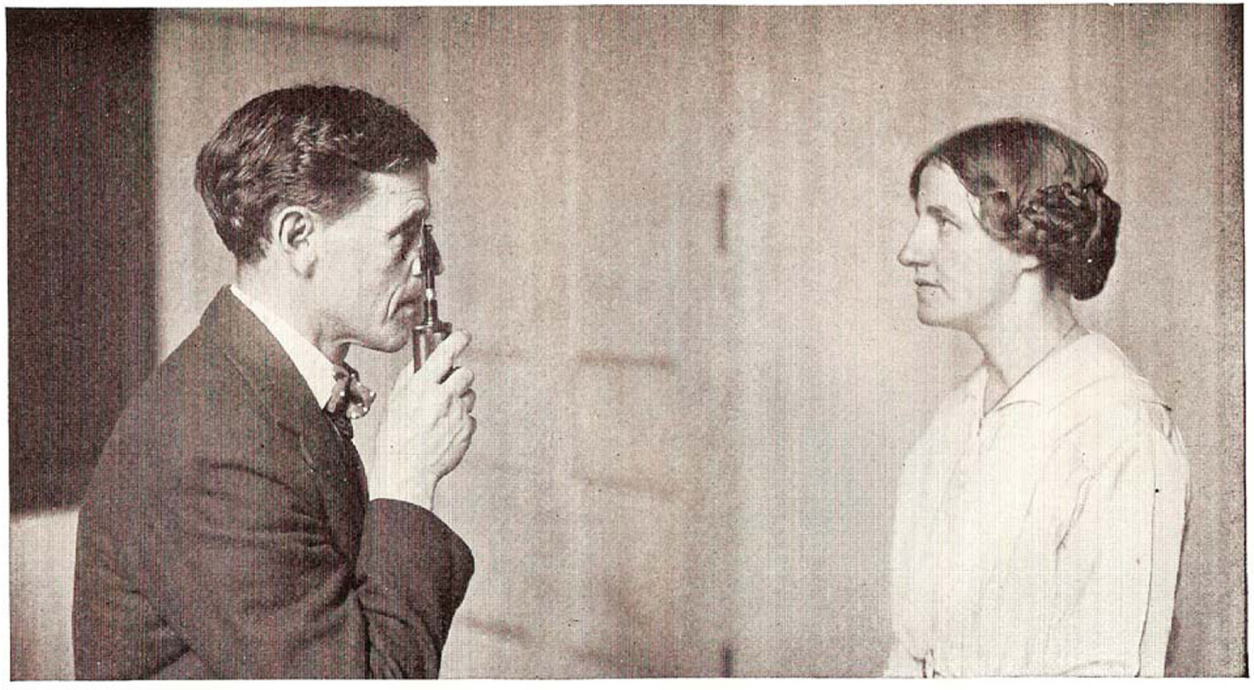


Fig. 8. The Usual Method of Using the Retinoscope
The observer is so near the subject that the latter is made nervous, and this changes the refraction.

ment. In astigmatism the movement is different in different meridians. To determine the degree of the error, or to distinguish accurately between hypermetropia and normality, or between the different kinds of astigmatism, it is usually necessary to place a glass before the eye of the subject. If the mirror is concave instead of plane, the movements described will be reversed; but the plane mirror is the one most commonly used.

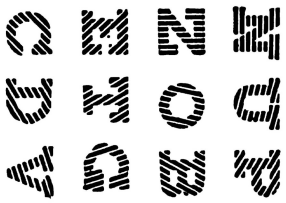
This exceedingly useful instrument has possibilities which have not been generally realized by the medical profession. Most ophthalmologists depend upon the Snellen[1] test card, supplemented by trial lenses, to determine whether the vision is normal or not, and to determine the degree of any abnormality that may exist. This is a slow, awkward and unreliable method of testing the vision, and absolutely unavailable for the study of the refraction of the lower animals, of infants, and of adult human beings under the conditions of life.

The test card and trial lenses can be used only under certain favorable conditions, but the retinoscope can be used anywhere. It is a little easier to use it in a dim light than in a bright one, but it may be used in any light, even with the strong light of the sun shining directly into the eye. It may also be used under many other unfavorable conditions.

It takes a considerable time, varying from minutes to hours, to measure the refraction with the Snellen test card and trial lenses. With the retinoscope, however, it can be determined in a fraction of a second. By the

[1] Herman Snellen (1835-1908). Celebrated Dutch ophthalmologist, professor of ophthalmology in the University of Utrecht and director of the Netherlandic Eye Hospital. The present standards of visual acuity were proposed by him, and his test types became the model for those now in use.

Diamond Astigmatic Chart.



Pray's Astigmatic Letters.

EXAMINATION OF THE EYE

F. H. Verhoeff has described two new astigmatic charts which differ in some important respects from the sun-ray figure, the various charts of green and the radiating lines in groups of three of Wallace. One of the new charts is intended solely for determining the axis, the other primarily for estimating the amount, of astigmatism.

Picture From;

The American Encyclopedia And Dictionary Of Ophthalmology Volume VI

Edited By Casey A. Wood, M. D., C. M., D. C. L.

Professor Of Ophthalmology and Head Of The Department, College Of Medicine, University Of Illinois.

Assisted By A Large Staff Of Collaborators

FULLY ILLUSTRATED

Year - 1915

former method would be impossible, for instance, to get any information about the refraction of a baseball player at the moment he swings for the ball, at the moment he strikes it, and at the moment after he strikes it. But with the retinoscope it is quite easy to determine whether his vision is normal, or whether he is myopic, hypermetropic, or astigmatic, when he does these things; and if any errors of refraction are noted, one can guess their degree pretty accurately by the rapidity of the movement of the shadow.

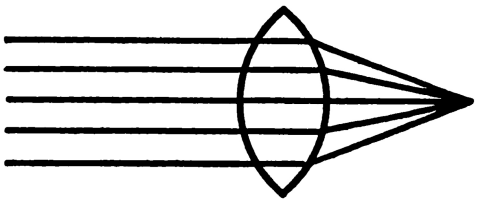
With the Snellen test card and trial lenses conclusions must be drawn from the patient's statements as to what he sees; but the patient often becomes so worried and confused during the examination that he does not know what he sees, or whether different glasses make his sight better or worse; and, moreover, visual acuity is not reliable evidence of the state of the refraction. One patient with two diopters of myopia may see twice as much as another with the same error of refraction. The evidence of the test card is, in fact, entirely subjective; that of the retinoscope is entirely objective, depending in no way upon the statements of the patient.

In short, while the testing of the refraction by means of the Snellen test card and trial lenses requires considerable time, and can be done only under certain artificial conditions, with results that are not always reliable, the retinoscope can be used under all sorts of normal and abnormal conditions on the eyes both of human beings and the lower animals; and the results, when it is used properly, can always be depended upon. This means that it must not be brought nearer to the eye than six feet; otherwise the subject will be made nervous, the refraction, for reasons which will be ex-

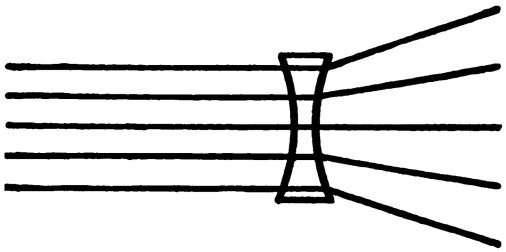
plained later, will be changed, and no reliable observations will be possible. In the case of animals it is often necessary to use it at a much greater distance.

For thirty years I have been using the retinoscope to study the refraction of the eye. With it I have examined the eyes of tens of thousands of school children, hundreds of infants and thousands of animals, including cats, dogs, rabbits, horses, cows, birds, turtles, reptiles and fish. I have used it when the subjects were at rest and when they were in motion—also when I myself was in motion; when they were asleep and when they were awake or even under ether and chloroform. I have used it in the daytime and at night, when the subjects were comfortable and when they were excited; when they were trying to see and when they were not; when they were lying and when they were telling the truth; when the eyelids were partly closed, shutting off part of the area of the pupil, when the pupil was dilated, and also when it was contracted to a pin-point; when the eye was oscillating from side to side, from above downward and in other directions. In this way I discovered many facts which had not previously been known, and which I was quite unable to reconcile with the orthodox teachings on the subject. This led me to undertake the series of experiments already alluded to. The results were in entire harmony with my previous observations, and left me no choice but to reject the entire body of orthodox teaching about accommodation and errors of refraction. But before describing these experiments I must crave the reader's patience while I present a résumé of the evidence upon which the accepted views of accommodation are based. This evidence, it seems to me, is as

strong an argument as any I could offer against the doctrine that the lens is the agent of accommodation, while an understanding of the subject is necessary to an understanding of my experiments.



Refraction of light rays passing through convex lens, becoming convergent.



Refraction of light rays passing through concave lens, becoming divergent.

The Eyes can refract, bend light rays from close and far objects perfect, naturally, producing clear eyesight at all distances when eyeglasses are avoided and The Bates Method of Natural Eyesight Improvement is practiced.

(Keep the diagram postioned as it is shown here.)

A diagram for demonstrating the "blind spot" on the retina which is the point at which the optic nerve enters. Closing the left eye and holding the diagram as it is, **ten or twelve inches in front of the right eye, look fixedly upon the cross and gradually bring the diagram nearer. At from seven to nine inches the black spot will suddenly disappear from the vision because the image falls upon the "blind spot."** Next; look at the black spot with the left eye, while the right eye is covered; The X disappears.

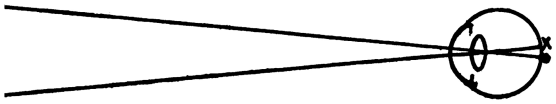


Diagram illustrating how the image is thrown upon the retina in the "blind spot" experiment. The circle marks the spot of entrance of the optic nerve (the eyeball in this Diagram is proportionately small).

Be aware of the *Blind Spot* when doing a Natural Eyesight Improvement practice with one eye, the other eye patched; DO NOT practice in the street, when using machinery, knives, driving, bike riding.., any activity, place that requires full vision, use of the vision in both left and right eyes together for safety.

When using both eyes; the right eye's field compensates for 'fills in' the blind spot of the left eye. The left eye's field compensates for 'fills in' the blind spot of the right eye. When using one eye; if the eye is immobile-the blind spot is immobile; it can block something you need to see-be aware of. When using one eye and when using both eyes; *remember to shift*; keep the eye, eyes moving for optimum vision, view of the entire visual field, your surroundings.

CHAPTER III

EVIDENCE FOR THE ACCEPTED THEORY OF ACCOMMODATION

THE power of the eye to change its focus for vision at different distances has puzzled the scientific mind ever since Kepler[1] tried to explain it by supposing a change in the position of the crystalline lens. Later on every imaginable hypothesis was advanced to account for it. The idea of Kepler had many supporters. So also had the idea that the change of focus was effected by a lengthening of the eyeball. Some believed that the contractive power of the pupil was sufficient to account for the phenomenon, until the fact was established, by the operation for the removal of the iris, that the eye accommodated perfectly without this part of the visual mechanism. Some, dissatisfied with all these theories, discarded them all, and boldly asserted that no change of focus took place,[2] a view which was conclusively disproven when the invention of the ophthalmoscope made it possible to see the interior of the eye.

The idea that the change of focus might be brought about by a change in the form of the lens appears to have been first advanced, according to Landolt,[3] by the

[1] Johannes Kepler (1571-1630). German theologian, astronomer and physicist. Many facts of physiological optics were either discovered, or first clearly stated, by him.

[2] Donders: On the Anomalies of Accommodation and Refraction of the Eye. English translation by Moore, 1864, p. 10. Frans Cornelis Donders (1818-1889) was professor of physiology and ophthalmology at the University of Utrecht, and is ranked as one of the greatest ophthalmologists of all time.

[3] Edmund Landolt (1846-) Swiss ophthalmologist who settled in Paris in 1874, founding an eye clinic which has attracted many students.

Jesuit, Scheiner (1619). Later it was put forward by Descartes (1637). But the first definite evidence in support of the theory was presented by Dr. Thomas Young in a paper read before the Royal Society in 1800.[1] "He adduced reasons," says Donders, "which, properly under-

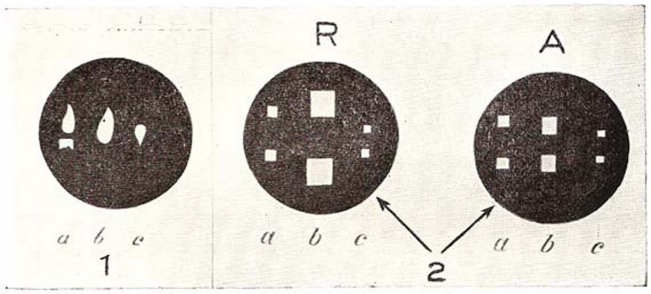


Fig. 9. Diagrams of the Images of Purkinje

No. 1—Images of a candle: a, on the cornea; b, on the front of the lens; c, on the back of the lens.

No. 2.—Images of lights shining through rectangular openings in a screen while the eye is at rest (R) and during accommodation (A): a, on the cornea; b, on the front of the lens; c, on the back of the lens (after Helmholtz).

Note that in No. 2, A, the central images are smaller and have approached each other, a change which, if actually took place, would indicate an increase of curvature in the front of the lens during accommodation.

stood, should be taken as positive proofs."[2] At the time, however, they attracted little attention.

About half a century later it occurred to Maximilian Langenbeck[3] to seek light on the problem by the aid of

[1] On the Mechanism of the Eye, Phil. Tr. Roy. Soc., London, 1801.

[2] On the Anomalies of Accommodation and Refraction of the Eye, pp. 10-11.

[3] Maximilian Adolf Langenbeck (1818-1877). Professor of anatomy, surgery and ophthalmology at Göttingen, from 1846 to 1851. Later settled in Hanover.

what are known as the images of Purkinje.[1] If a small bright light, usually a candle, is held in front of and a little to one side of the eye, three images are seen: one bright and upright; another large, but less bright, and also upright; and a third small, bright and inverted. The first comes from the cornea, the transparent covering of the iris and pupil, and the other two from the lens, the upright one from the front and the inverted one from the back. The corneal reflection was known to the ancients, although its origin was not discovered till later; but the two reflections from the lens were first observed in 1823 by Purkinje; whence the trio of images is now associated with his name. Langenbeck examined these images with the naked eye, and reached the conclusion that during accommodation the middle one became smaller than when the eye was at rest. And since an image reflected from a convex surface is diminished in proportion to the convexity of that surface, he concluded that the front of the lens became more convex when the eye adjusted itself for near vision. Donders repeated the experiments of Langenbeck, but was unable to make any satisfactory observations. He predicted, however, that if the images were examined with a magnifier they would "show with certainty" whether the form of the lens changed during accommodation. Cramer,[2] acting on this suggestion, examined the images as magnified from ten to twenty times, and thus convinced himself that the one reflected from the front of the lens became considerably smaller during accommodation.

---

[1] Johannes Evangelista von Purkinje (1787-1869). Professor of physiology at Breslau and Prague, and the discoverer of many important physiological facts.

[2] Antonie C. Cramer (1822-1855). Dutch ophthalmologist.

Subsequently Helmholtz, working independently, made a similar observation, but by a somewhat different method. Like Donders, he found the image obtained by the ordinary methods on the front of the lens very unsatisfactory, and in his "Handbook of Physiological Optics" he describes it as being "usually so blurred that the form of the flame cannot be definitely distinguished."[1] So he placed two lights, or one doubled by reflection from a mirror, behind a screen in which were two small rectangular openings, the whole being so arranged that the lights shining through the openings of the screen formed two images on each of the reflecting surfaces. During accommodation, it seemed to him that the two images on the front of the lens became smaller and approached each other, while on the return of the eye to a state of rest they grew larger again and separated. This change, he said, could be seen "easily and distinctly."[2] The observations of Helmholtz regarding the behavior of the lens in accommodation, published about the middle of the last century, were soon accepted as facts, and have ever since been stated as such in every text-book dealing with the subject.

"We may say," writes Landolt, "that the discovery of the part played by the crystalline lens in the act of accommodation is one of the finest achievements of medical physiology, and the theory of its working is certainly one of the most firmly established; for not only have "savans" furnished lucid and mathematical proofs of its correctness, but all other theories which have been advanced as explaining accommodation have been easily

[1] Handbuch der physiologischen Optik, edited by Nagel, 1909-11, vol. i, p. 121.

[2] Ibid, vol. i, p. 122.

and entirely overthrown. .. .. .. .The fact that the eye is accommodated for near vision by an increase in the curvature of its crystalline lens, is, then, incontestably proved."[1]

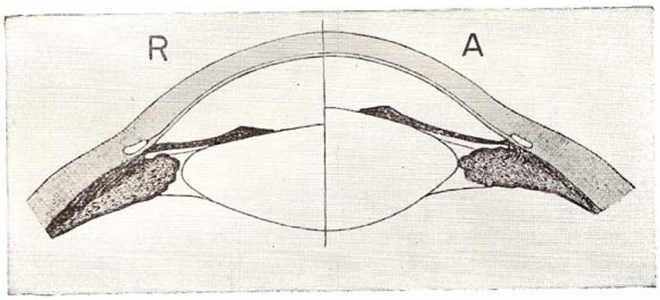


Fig. 10. Diagram by Which Helmholtz Illustrated His Theory of Accommodation

R is supposed to be the resting state of the lens, in which it is adjusted for distant vision. In A the suspensory ligament is supposed to have been relaxed through the contraction of the ciliary muscle, permitting the lens to bulge forward by virtue of its own elasticity.

"The question was decided," says Tscherning, "by the observation of the changes of the images of Purkinje during accommodation, which prove that accommodation is effected by an increase of curvature of the anterior surface of the crystalline lens."[2]

---

[1] The Refraction and Accommodation of the Eye and their Anomalies, authorized translation by Culver, 1886, p. 151.

[2] Physiologic Optics, authorized translation by Weiland, 1904, p. 163. Marius Hans Erik Tscherning (1854—) is a Danish ophthalmologist who for twenty-five years was co-director and director of the ophthalmological laboratory of the Sorbonne. Later he became professor of ophthalmology in the University of Copenhagen.

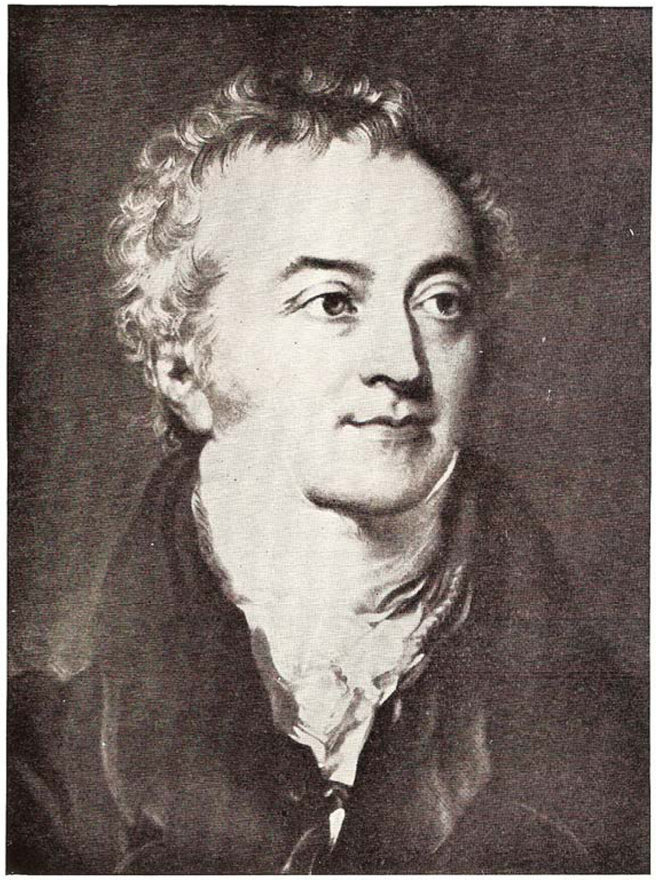


Fig. 11. Thomas Young (1773-1829)
English physician and man of science who was the first to present a serious argument in support of the view that accommodation is brought about by the agency of the lens.

Books from the 1800's; A *Course of Lectures on Natural Philosophy and the Mechanical Arts. Vol. 1 and 2 By THOMAS YOUNG, M. D.*
Experiments and lectures; wave theory of light, light and colors, color perception, sound and light, physiological optics, molecules. Many other contributions to science, optics.
His books are free in PDF on the Internet.

A

COURSE OF LECTURES

ON

NATURAL PHILOSOPHY

AND THE

MECHANICAL ARTS.

BY THOMAS YOUNG, M.D.

FOR. SEC. R.S. F.L.S. MEMBER OF EMMANUEL COLLEGE, CAMBRIDGE, AND LATE PROFESSOR OF NATURAL PHILOSOPHY IN THE ROYAL INSTITUTION OF GREAT BRITAIN

IN TWO VOLUMES.

VOLUME I.

LONDON:

PRINTED FOR JOSEPH JOHNSON, ST. PAUL'S CHURCH YARD, BY WILLIAM SAVAGE, BEDFORD BURY.

1807.

"The greatest thinkers," says Cohn, "have mastered a host of difficulties in discovering this arrangement, and it is only in very recent times that its processes have been clearly and perfectly set forth in the works of Sanson, Helmholtz, Brücke, Hensen and Völckers."[1]

Huxley refers to the observations of Helmholtz as the "facts of adjustment with which all explanations of that process must accord,"[2] and Donders calls his theory the "true principle of accommodation."[3]

Arlt, who had advanced the elongation theory and believed that no other was possible, at first opposed the conclusions of Cramer and Helmholtz,[4] but later accepted them.[5]

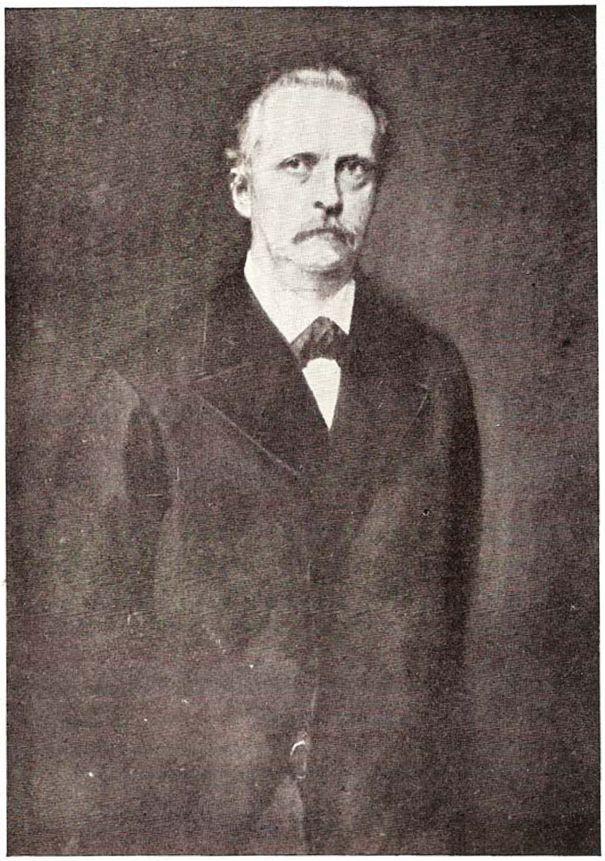
Yet in examining the evidence for the theory we can only wonder at the scientific credulity which could base such an important department of medical practice as the treatment of the eye upon such a mass of contradictions. Helmholtz, while apparently convinced of the correctness of his observations indicating a change of form in the lens during accommodation, felt himself unable to speak with certainty of the means by which the supposed change was effected,[6] and strangely enough the question is still being debated. Finding, as he states, "absolutely nothing but the ciliary muscle to which accommodation could be attributed,"[7] Helmholtz concluded that the changes which he thought he had observed in the curvature of the lens must be effected by the action of this muscle; but he was unable to offer any satisfac-

[1] The Hygiene of the Eye in Schools, English translation edited by Turnbull, 1886, p. 23. Hermann Cohn (1838-1906) was professor of ophthalmology in the University of Breslau, and is known chiefly for his contributions to ocular hygiene.
[2] Lessons in Elementary Physiology, sixth edition, 1872, p. 231.
[3] On the Anomalies of Accommodation and Refraction of the Eye, p. 13.
[4] Krankheiten des Auges, 1853-56, vol. iii, p. 219, et seq.
[5] Ueber die Ursachen und die Entstehung der Kurzsichtigkeit, 1876. Vorwort.
[6] Handbuch der physiologischen Optik, vol. i, pp. 124 and 145.
[7] Ibid, vol. i, p. 144.

tory theory of the way it operated to produce these results and he explicitly stated that the one he suggested possessed only the character of probability. Some of his disciples, "more loyal than the king," as Tscherning has pointed out, "have proclaimed as certain what he himself with much reserve explained as probable,"[1] but there has been no such unanimity of acceptance in this case as in that of the observations regarding the behavior of the images reflected from the lens. No one except the present writer, so far as I am aware, has ventured to question that the ciliary muscle is the agent of accommodation; but as to the mode of its operation there is generally felt to be much need for more light. Since the lens is not a factor in accommodation, it is not strange that no one was able to find out how it changed its curvature. It is strange, however, that these difficulties have not in any way disturbed the universal belief that the lens does change.

When the lens has been removed for cataract the patient usually appears to lose his power of accommodation, and not only has to wear a glass to replace the lost part, but has to put on a stronger glass for reading. A minority of these cases, however, after they become accustomed to the new condition, become able to see at the near-point without any change in their glasses. The existence of these two classes of cases has been a great stumbling block to ophthalmology. The first and more numerous appeared to support the theory of the agency of the lens in accommodation; but the second was hard to explain away, and constituted at one time, as Dr. Thomas Young observed, the "grand objection" to this idea. A number of these cases of apparent change of focus

[1] Physiologic Optics, p. 166.



Herman Ludwig Ferdinand von Helmholtz (1821-1894)

whose observations regarding the behavior of images reflected from the front of the lens are supposed to have demonstrated that the curvature of this body changes during accommodation

31

Professor of Physics, Physiology in the University of Berlin, Prussia

Hermann Ludwig Ferdinand von Helmholtz, Great German Scientist. Inventor, philosopher, physics, contributed to optics, electrodynamics, mathematics, physiology, meteorology, measured the speed of the nerve impulse, submitted a theory of color vision, the perception of musical tones. Listed in *Psychology and Life - 6th Edition* by Floyd L. Ruch, Theodore and William Ruch and 7 other Contributors. Read chapter 10, page 264; Vision-The Sense of Sight. Great description of eye movements, fixations, left and right brain hemisphere function with the eyes... He studied the eyes' lens and invented instruments 'the *ophthalmoscope and ophthalmometer*' to inspect the inside of the eye, light rays, lens, retina... Modern eye doctors state they have proved that the lens and eye change shape during accommodation. The eye lengthens a bit when the lens thickens. Dr. Bates and Helmholtz's studies are proven correct. Is this the final observation, or will the theories and facts be re-investigated in the future.

Hermann Helmholtz's books are free on the Internet, GoogleBooks in German and English, in original antique print; *Treatise on Physiological Optics, On the Sensations of Tone as a Physiological Basis for the Theory of Music* and *Popular Scientific Lectures.*

in the lensless eye having been reported to the Royal Society by competent observers, Dr. Young, before bringing forward his theory of accommodation, took the trouble to examine some of them, and considered himself justified in concluding that an error of observation had been made. While convinced, however, that in such eyes the "actual focal distance is totally unchangeable," he characterized his own evidence in support of this view as only "tolerably satisfactory." At a later period Donders made some investigations from which he concluded that "in aphakia[1] not the slightest trace of accommodative power remains."[2] Holmholtz expressed similar views, and von Graefe, although he observed a "slight residuum" of accommodative power in lensless eyes, did not consider it sufficient to discredit the theory of Cramer and Helmholtz. It might be due, he said, to the accommodative action of the iris, and possibly also to a lengthening of the visual axis through the action of the external muscles.[3]

For nearly three-quarters of a century the opinions of these masters have echoed through ophthalmological literature. Yet it is to-day a perfectly well-known and undisputed fact that many persons, after the removal of the lens for cataract, are able to see perfectly at different distances without any change in their glasses. Every ophthalmologist of any experience has seen cases of this kind, and many of them have been reported in the literature.

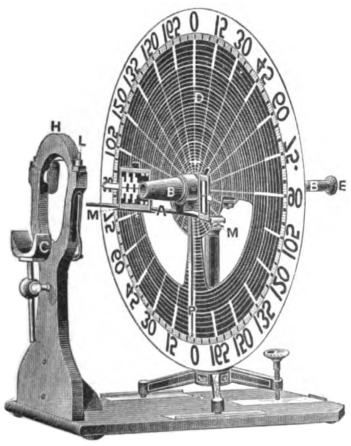
In 1872, Professor Förster of Breslau, reported[4] a

[1] Absence of the lens.

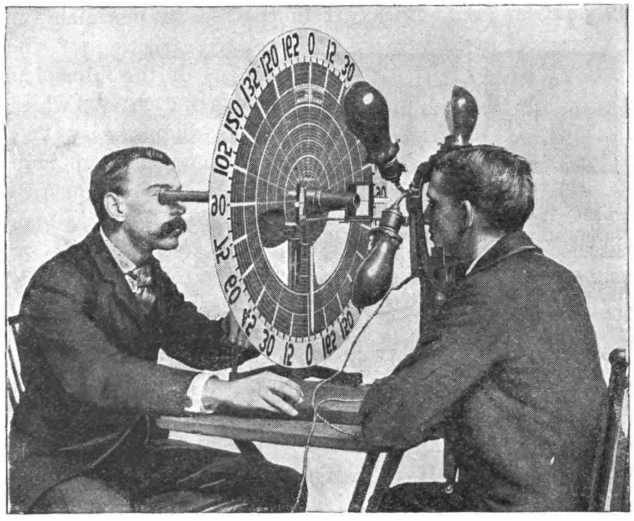
[2] On the Anomalies of Accommodation and Refraction of the Eye, p. 320.

[3] Archiv. f. Ophth., 1855, vol. ii, part 1, p. 187 et seq. Albrecht von Graefe (1828-1870) was professor of ophthalmology in the University of Berlin, and is ranked with Donders and Arlt as one of the greatest ophthalmologists of the nineteenth century.

[4] Klin. Montasbl. f. Augenh., Erlangen, 1872, vol. x, p. 39, et seq.



Javal-Schiötz ophthalmometer.



The Javal-Schiötz Ophthalmometer

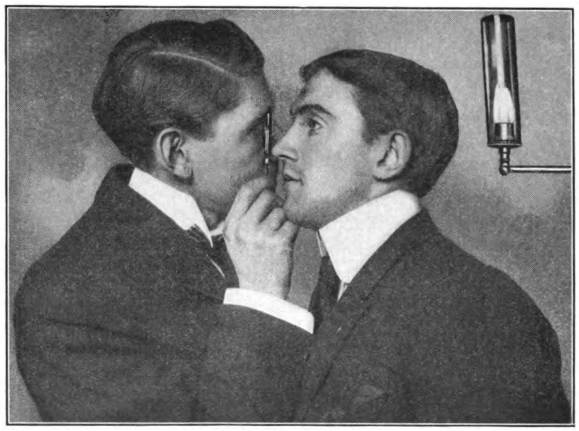
series of twenty-two cases of apparent accommodation in eyes from which the lens had been removed for cataract. The subjects ranged in age from eleven to seventy-four years, and the younger ones had more accommodative power than the elder. A year later Woinow of Moscow[1] reported eleven cases, the subjects being from twelve to sixty years of age. In 1869 and 1870, respectively, Loring reported[2] to the New York Ophthalmological Society and the American Ophthalmological Society the case of a young woman of eighteen who, without any change in her glasses, read the twenty line on the Snellen test card at twenty feet and also read diamond type at from five inches to twenty. On October 8, 1894, a patient of Dr. A. E. Davis who appeared to accommodate perfectly without a lens consented to go before the New York Ophthalmological Society. "The members," Dr. Davis reports,[3] "were divided in their opinion as to how the patient was able to accommodate for the near-point with his distance glasses on"; but the fact that he could see at this point without any change in his glasses was not to be disputed.

The patient was a chef, forty-two years old, and on January 27, 1894, Dr. Davis had removed a black cataract from his right eye, supplying him at the same time with the usual outfit of glasses, one to replace the lens, for distant vision, and a stronger one for reading. In October he returned, not because his eye was not doing well, but because he was afraid he might be "straining" it. He had discarded his reading glasses after a few weeks, and had since been using only his distance glasses. Dr.

[1] Archiv. f. Ophth., 1873, vol. xix, part 3, p. 107.

[2] Flint: Physiology of Man, 1875, vol. v, pp. 110-111.

[3] Davis: Accommodation in the Lensless Eye, Reports of the Manhattan Eye and Ear Hospital, Jan., 1895. The article gives a review of the whole subject.



Direct Method of Ophthalmoscopic Examination.

Davis doubted the truth of his statements, never having seen such a case before, but found them, upon investigation, to be quite correct. With his lensless eye and a convex glass of eleven and a half diopters, the patient read the ten line on the test card at twenty feet, and with the same glass, and without any change in its position, he read fine print at from fourteen to eighteen inches. Dr. Davis then presented the case to the Ophthalmological Society but, as has been stated, he obtained no light from that source. Four months later, February 4, 1895, the patient still read 20/10 at the distance and his range at the near point had increased so that he read diamond type at from eight to twenty-two and a half inches. Dr. Davis subjected him to numerous tests, and though unable to find any explanation for his strange performances, he made some interesting observations. The results of the tests by which Donders satisfied himself that the lensless eye possessed no accommodative power were quite different from those reported by the Dutch authority, and Dr. Davis therefore concluded that these tests were "wholly inadequate to decide the question at issue." During accommodation the ophthalmometer[1] showed that the corneal curvature was changed and that the cornea moved forward a little. Under scopolamine, a drug sometimes used instead of atropine to paralyze the ciliary muscle (1/10 per cent solution every five minutes for thirty-five minutes, followed by a wait of half an hour), these changes took place as before; they also took place when the lids were held up. With the possible influence of lid pressure and of the ciliary muscle eliminated, therefore, Dr. Davis felt himself bound to conclude that the changes "must

[1] An instrument for measuring the curvature of the cornea.

have been produced by the action of the external muscles." Under scopolamine, also, the man's accommodation was only slightly affected, the range at the near-point being reduced only two and a half inches.

The ophthalmometer further showed the patient to have absolutely no astigmatism. It had showed the same thing about three months after the operation, but three and a half weeks after it he had four and a half diopters.

Seeking further light upon the subject Dr. Davis now subjected to similar tests a case which had previously been reported by Webster in the "Archives of Pediatrics."[1] The patient had been brought to Dr. Webster at the age of ten with double congenital cataract. The left lens had been absorbed as the result of successive needlings, leaving only an opaque membrane, the lens capsule, while the right, which had not been interfered with, was sufficiently transparent around the edge to admit of useful vision. Dr. Webster made an opening in the membrane filling the pupil of the left eye, after which the vision of this eye, with a glass to replace the lens, was about equal to the vision of the right eye without a glass. For this reason Dr. Webster did not think it necessary to give the patient distance glasses, and supplied him with reading glasses only—plane glass for the right eye and convex 16D for the left. On March 14, 1893, he returned and stated that he had been wearing his reading glasses all the time. With this glass it was found that he could read the twenty line of the test card at twenty feet, and read diamond type easily at fourteen inches. Subsequently the right lens was removed, after which no accommodation was observed in this eye. Two years later

[1] Nov., 1893, p. 932.

March 16, 1895, he was seen by Dr. Davis, who found that the left eye now had an accommodative range of from ten to eighteen inches. In this case no change was observed in the cornea. The results of the Donders tests were similar to those of the earlier case, and under scopolamine the eye accommodated as before, but not quite so easily. No accommodation was observed in the right eye.

These and similar cases have been the cause of great embarrassment to those who feel called upon to reconcile them with the accepted theories. With the retinoscope the lensless eye can be seen to accommodate; but the theory of Helmholtz has dominated the ophthalmological mind so strongly that even the evidence of objective tests was not believed. The apparent act of accommodation was said not to be real, and many theories, very curious and unscientific, have been advanced to account for it. Davis is of the opinion that "the slight change in the curvature of the cornea, and its slight advancement observed in some cases, may, in those cases, account for some of the accommodative power present, but it is such a small factor that it may be elminated entirely, since in some of the most marked cases of accommodation in aphakial eyes no such changes have been observed."

The voluntary production of astigmatism is another stumbling block to the supporters of the accepted theories, as it involves a change in the shape of the cornea, and such a change is not compatible with the idea of an "inextensible"[1] eyeball. It seems to have given them less trouble, however, than the accommodation of the lensless

[1] Inasmuch as the eye is inextensible, it cannot adapt itself for the perception of objects situated at different distances by increasing the length of its axis, but only by increasing the refractive power of its lens.—De Schweinitz: Diseases of the Eye, eighth edition, 1916, pp. 35-36.

eye, because fewer of these cases have been observed and still fewer have been allowed to get into the literature. Some interesting facts regarding one have fortunately been given by Davis, who investigated it in connection with the corneal changes noted in the lensless eye. The case was that of a house surgeon at the Manhattan Eye and Ear Hospital, Dr. C. H. Johnson. Ordinarily this gentleman had half a diopter of astigmatism in each eye; but he could, at will, increase this to two diopters in the right eye and one and a half in the left. He did this many times, in the presence of a number of members of the hospital staff, and also did it when the upper lids were held up, showing that the pressure of the lids had nothing to do with the phenomenon. Later he went to Louisville, and here Dr. J. M. Ray, at the suggestion of Dr. Davis, tested his ability to produce astigmatism under the influence of scopolamine (four instillations, 1/5 per cent solution). While the eyes were under the influence of the drug the astigmatism still seemed to increase, according to the evidence of the ophthalmometer, to one and a half diopters in the right eye and one in the left. From these facts, the influence of the lids and of the ciliary muscle having been eliminated, Dr. Davis concluded that the change in the cornea was "brought about mainly by the external muscles." What explanation others offer for such phenomena I do not know.

CHAPTER IV

THE TRUTH ABOUT ACCOMMODATION AS DEMONSTRATED BY EXPERIMENTS ON THE EYE MUSCLES OF FISH, CATS, DOGS, RABBITS AND OTHER ANIMALS

THE function of the muscles on the outside of the eyeball, apart from that of turning the globe in its socket, has been a matter of much dispute; but after the supposed demonstration by Helmholtz that accommodation depends upon a change in the curvature of the lens, the possibility of their being concerned in the adjustment of the eye for vision at different distances, or in the production of errors of refraction, was dismissed as no longer worthy of serious consideration. "Before physiologists were acquainted with the changes in the dioptic system,"[1] says Donders, "they often attached importance to the external muscles in the production of accommodation. Now that we know that accommodation depends on a change of form in the lens this opinion seems scarcely to need refutation." He states positively that "many instances occur where the accommodation is wholly destroyed by paralysis, without the external muscles being the least impeded in their action," and also that "some cases are on record of paralysis of all or nearly all of the muscles of the eye, and of deficiency of the same, without diminution of the power of accommodation."[2]

If Donders had not considered the question settled, he

[1] The refractive system.

[2] On the Anomalies of Accommodation and Refraction of the Eye, p. 22.

might have inquired more carefully into these cases, and if he had, he might have been less dogmatic in his statements; for, as has been pointed out in the preceding chapter, there are plenty of indications that the contrary is the case. In my own experiments upon the extrinsic eye muscles of fish, rabbits, cats, dogs and other animals, the demonstration seemed to be complete that in the eyes of these animals accommodation depends wholly upon the action of the extrinsic muscles and not at all upon the agency of the lens. By the manipulation of these muscles I was able to produce or prevent accommodation at will, to produce myopia, hypermetropia and astigmatism, or to prevent these conditions. Full details of these experiments will be found in the "Bulletin of the New York Zoological Society" for November, 1914, and in the "New York Medical Journal" for May 8, 1915; and May 18, 1918; but for the benefit of those who have not the time or inclination to read these papers, their contents are summarized below.

There are six muscles on the outside of the eyeball, four known as the "recti" and two as the "obliques." The obliques form an almost complete belt around the middle of the eyeball, and are known, according to their position, as "superior" and "inferior." The recti are attached to the sclerotic, or outer coat of the eyeball, near the front, and pass directly over the top, bottom and sides of the globe to the back of the orbit, where they are attached to the bone round the edges of the hole through which the optic nerve passes. According to their position, they are known as the "superior," "inferior," "internal" and "external" recti. The obliques are the muscles of accommodation; the recti are concerned in the production of hypermetropia and astigmatism.

In some cases one of the obliques is absent or rudimentary, but when two of these muscles were present and active, accommodation, as measured by the objective test

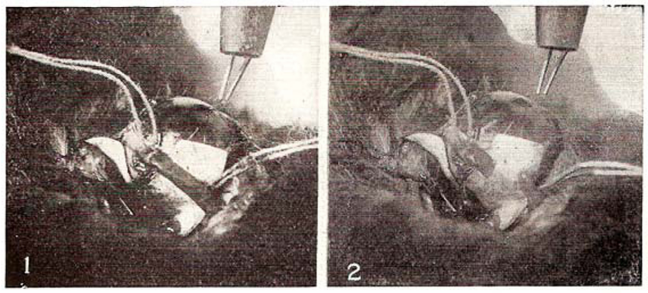
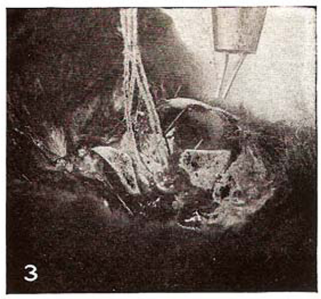


Fig. 13. Demonstration Upon the Eye of a Rabbit that the Inferior Oblique Muscle is an Essential Factor in Accommodation

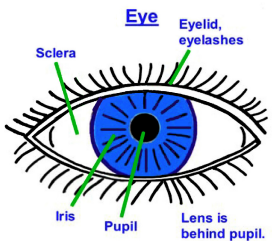


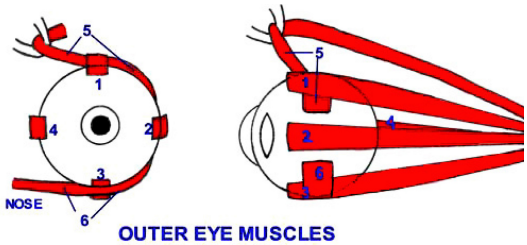
No. 1.—The inferior oblique muscle has been exposed and two sutures are attached to it. Electrical stimulation of the eyeball produces accommodation, as demonstrated by simultaneous retinoscopy.

No. 2.—The muscle has been cut. Electrical stimulation produces no accommodation.

No. 3.—The muscle has been sewed together. Electrical stimulation produces normal accommodation.

of retinoscopy, was always produced by electrical stimulation either of the eyeball, or of the nerves of accommodation near their origin in the brain. It was also pro-





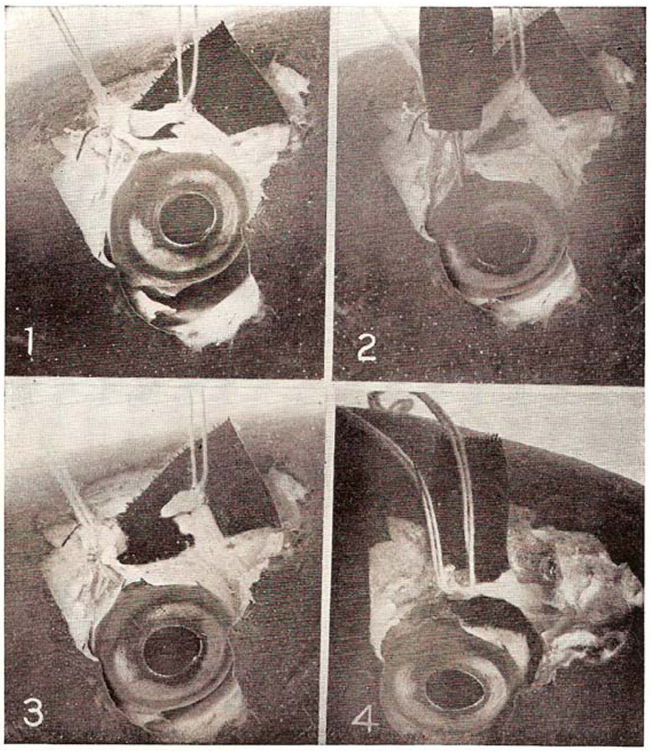


Fig. 14. Demonstration Upon the Eye of a Carp That the Superior Oblique Muscle Is Essential to Accommodation.

No. 1.—The superior oblique is lifted from the eyeball by two sutures, and the retinoscope shows no error of refraction. No. 2.—Electrical stimulation produces accommodation, as determined by the retinoscope. No. 3.—The muscle has been cut. Stimulation of the eyeball with electricity fails to produce accommodation. No. 4.—The divided muscle has been reunited by tying the sutures. Accommodation follows electrical stimulation as before.

duced by any manipulation of the obliques whereby their pull was increased. This was done by a tucking operation of one or both muscles, or by an advancement of the

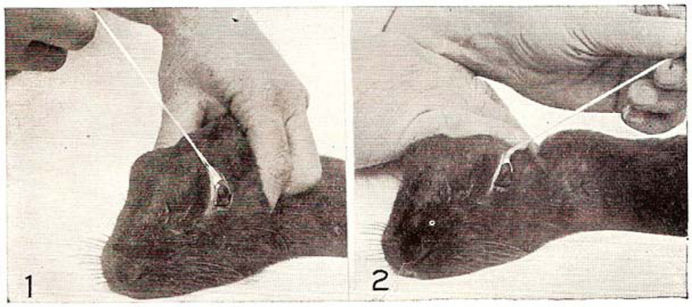
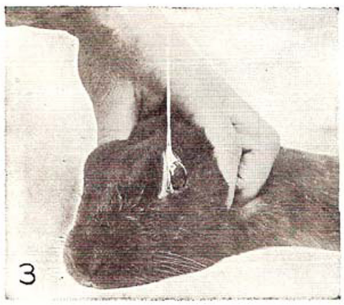


Fig. 15. Demonstration Upon the Eye of a Rabbit That the Production of the Refractive Errors Is Dependent Upon the Action of the External Muscles. The String Is Fastened to the Insertion of the Superior Oblique and Rectus Muscles



No. 1.—Backward pull. Myopia is produced.

No. 2.—Forward pull. Hypermetropia is produced.

No. 3.—Upward pull in the plane of the iris. Mixed astigmatism is produced.

point at which they are attached to the sclerotic. When one or more of the recti had been cut, the effect of operations increasing the pull of the obliques was intensified.

After one or both of the obliques had been cut across, or after they had been paralyzed by the injection of atropine deep into the orbit, accommodation could never be.

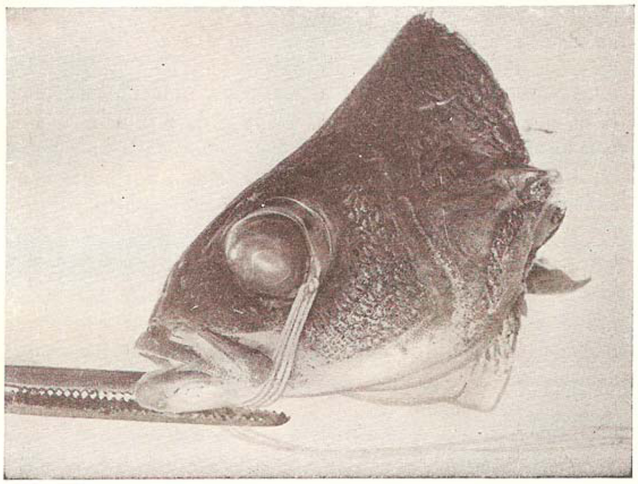


Fig. 16. Demonstration Upon the Eye of a Fish That the Production of Myopic and Hypermetropic Refraction Is Dependent Upon the Action of the Extrinsic Muscles.

Suture tied to the insertion of the superior rectus muscle. By means of strong traction upon the suture the eyeball is turned in its socket, and by tying the thread to a pair of fixation forceps which grasp the lower jaw, it is maintained in this position. A high degree of mixed astigmatism as produced, as demonstrated by simultaneous retinoscopy. When the superior oblique is divided the myopic part of the astigmatism disappears, and when the inferior rectus is cut the hypermetropic part disappears, and the eye becomes normal—adjusted for distant vision—although the same amount of traction is maintained. It is evident that these muscles are essential factors in the production of myopia and hypermetropia.

produced by electrical stimulation; but after the effects of the atropine had passed away, or a divided muscle had been sewed together, accommodation followed electrical stimulation just as usual. Again when one oblique muscle was absent, as was found to be the case in a dogfish, a shark and a few perch, or rudimentary, as in all cats observed, a few fish and an occasional rabbit, accommodation could not be produced by electrical stimulation. But when the rudimentary muscle was strengthened by advancement, or the absent one was replaced by a suture which supplied the necessary countertraction, accommodation could always be produced by electrical stimulation.

After one or both of the oblique muscles had been cut, and while two or more of the recti were present and active,[1] electrical stimulation of the eyeball, or of the nerves of accommodation, always produced hypermetropia, while by the manipulation of one of the recti, usually the inferior or the superior, so as to strengthen its pull, the same result could be produced. The paralyzing of the recti by atropine, or the cutting of one or more of them, prevented the production of hypermetropic refraction by electrical stimulation; but after the effects of the atropine had passed away, or after a divided muscle had been sewed together, hypermetropia was produced as usual by electrical stimulation.

It should be emphasized that in order to paralyze either the recti muscles, or the obliques, it was found necessary to inject the atropine far back behind the eyeball with a hypodermic needle. This drug is supposed to paralyze the accommodation when dropped into the eyes of human

[1] In many animals, notably in rabbits, the internal and external recti are either absent or rudimentary, so that, practically, in such cases, there are only two recti, just as there are only two obliques. In others, as in many fish, the internal rectus is negligible.

beings or animals, but in all of my experiments it was found that when used in this way it had very little effect upon the power of the eye to change its focus.

Astigmatism was usually produced in combination

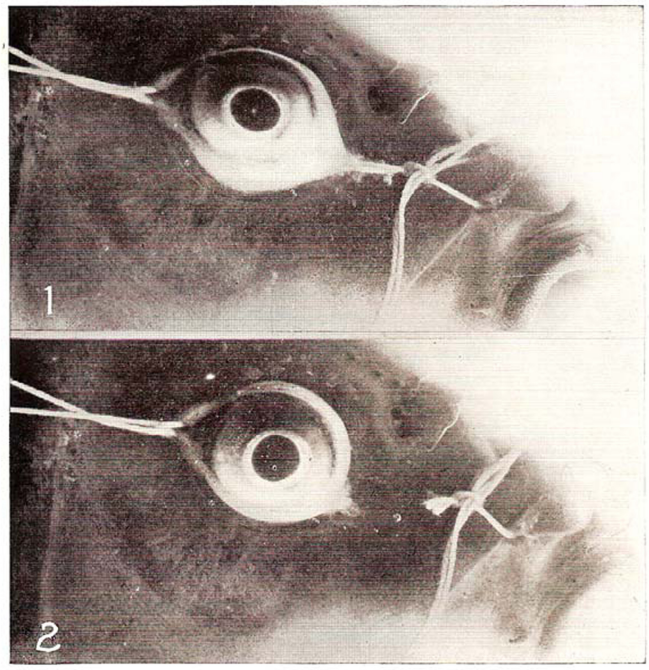


Fig. 17.

No. 1.—Production of mixed astigmatism in the eye of a carp by pulling strings attached to the conjunctiva in opposite directions. Note the oval shape of the front of the eyeball.

No. 2.—With the cutting of the strings the eyeball returns to its normal shape, and the refraction becomes normal.

with myopic or hypermetropic refraction. It was also produced by various manipulations of both the oblique and recti muscles. Mixed astigmatism, which is a combination of myopic with hypermetropic refraction, was

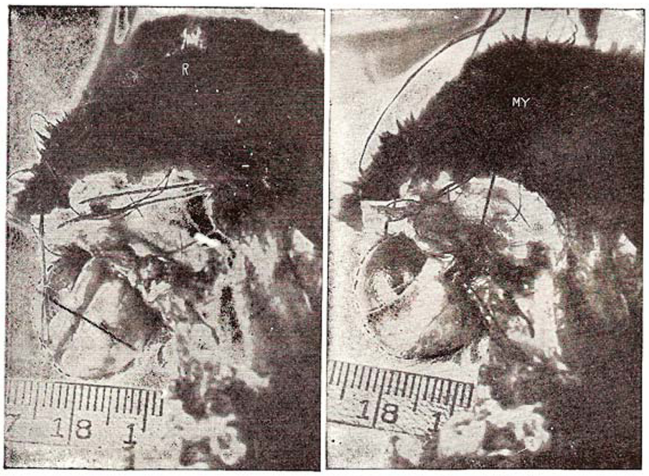


Fig. 18. Demonstration Upon the Eyeball of a Rabbit That the Obliques Lengthen the Visual Axis in Myopia

R, rest. The eyeball is of normal length and emmetropic—that is, perfectly adjusted for distant vision. My, myopia. The pull of the oblique muscles has been strengthened by advancement, and the retinoscope shows that myopia has been produced. It can easily be noted that the eyeball is longer. It was impossible to avoid some movement of the head between the taking of the two pictures as a result of the manipulation of the strings, but the rule shows that the focus of the camera was not appreciably changed by such movements.

always produced by traction on the insertion of the superior or inferior rectus in a direction parallel to the plane of the iris, so long as both obliques were present and active: but if either or both of the obliques had been cut,

the myopic part of the astigmatism disappeared. Similarly after the superior or the inferior rectus had been cut the hypermetropic part of the astigmatism disappeared. Advancement of the two obliques, with advancement of the superior and inferior recti, always produced mixed astigmatism.

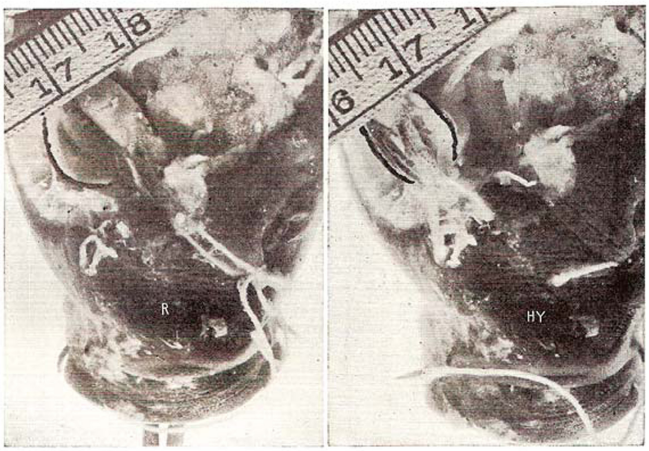


Fig. 19. Demonstration Upon the Eye of a Carp That the Recti Shorten the Visual Axis in Hypermetropia

R, rest. The eyeball is of normal length and emmetropic. Hy, hypermetropia. The pull of the external and internal recti has been strengthened by advancement, and the retinoscope shows that hypermetropia has been produced. It may easily be noted that the eyeball is shorter. The rule shows that the focus of the camera was not appreciably changed between the taking of the two pictures.

Eyes from which the lens had been removed, or in which it had been pushed out of the axis of vision, responded to electrical stimulation precisely as did the normal eye, so long as the muscles were active; but

when they had been paralyzed by the injection of atropine deep into the orbit, electrical stimulation had no effect on the refraction.

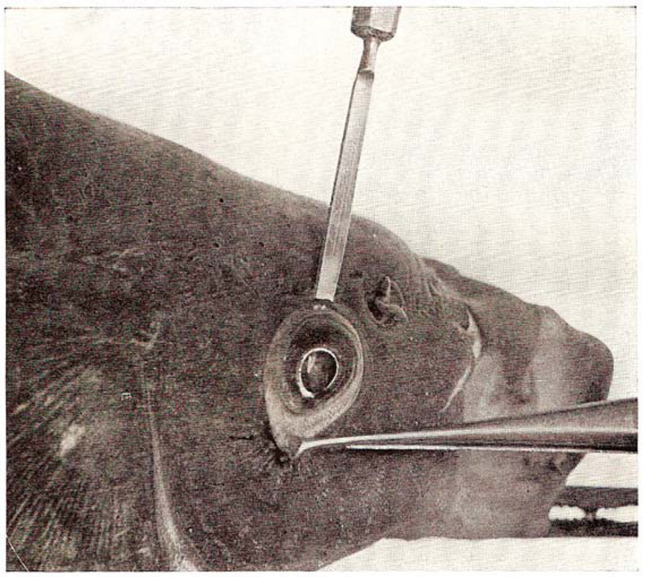


Fig. 20. Lens Pushed Out of the Axis of Vision

In this experiment on the eye of a carp the lens was pushed out of the axis of vision. Accommodation took place after this displacement just as it did before. Note the point of the knife in the pupil in front of the lens.

In one experiment the lens was removed from the right eye of a rabbit, the refraction of each eye having first been tested by retinoscopy and found to be normal. The wound was then allowed to heal. Thereafter, for a

period extending from one month to two years, electrical stimulation always produced accommodation in the lensless eye precisely to the same extent as in the eye which

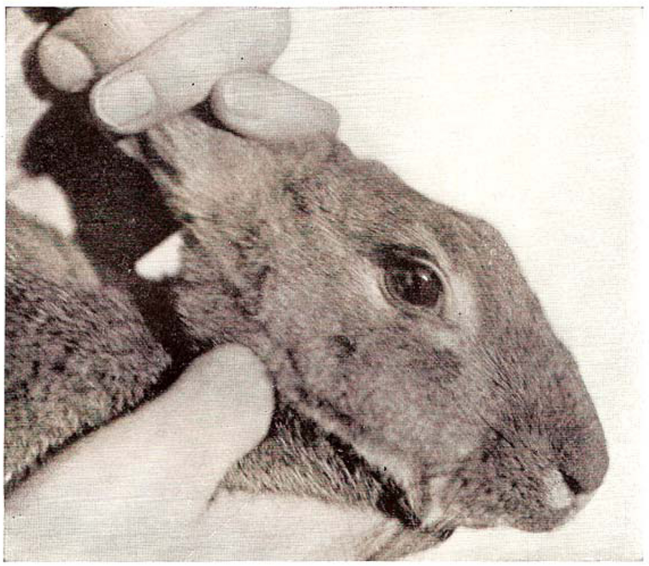


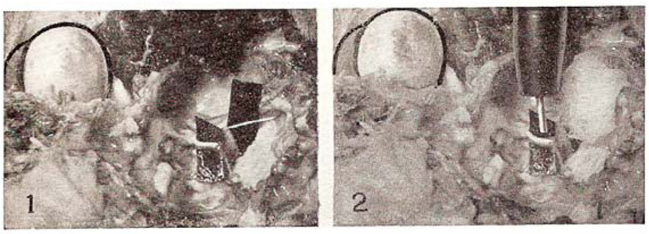
Fig. 21. Rabbit With Lens Removed

The animal was exhibited at a meeting of the Ophthalmological Section of the American Medical Association, held in Atlantic City, and was examined by a number of ophthalmologists present, all of whom testified that electrical stimulation of the eyeball produced accommodation, or myopic refraction, precisely as in the normal eye.

had a lens. The same experiment with the same result was performed on a number of other rabbits, on dogs and on fish. The obvious conclusion is that the lens is not a factor in accommodation.

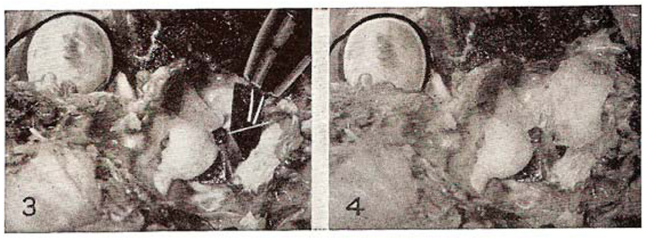
In most text-books on physiology it is stated that accommodation is controlled by the third cranial nerve, which supplies all the muscles of the eyeball except the superior oblique and the external rectus; but the fourth cranial nerve, which supplies only the superior oblique, was found in these experiments to be just as much a nerve of accommodation as the third. When either the third or the fourth nerve was stimulated with electricity near its point of origin in the brain accommodation al-

Fig. 22. Experiment Upon the Eye of a Cat Demonstrating That the Fourth Nerve, Which Supplies Only the Superior Oblique Muscle, Is Just as Much a Nerve of Accommodation As the Third, and That the Superior Oblique Muscle Which It Supplies Is a Muscle of Accommodation.



No. 1.—Both nerves have been exposed near their origin in the brain, and a strip of black paper has been inserted beneath each to render it visible. The fourth nerve is the smaller one. The superior oblique muscle has been advanced by a tucking operation, as this muscle is always rudimentary in cats, and unless its pull is strengthened, accommodation cannot be produced in these animals. Stimulation of either or both nerves by the faradic current produced accommodation.

No. 2.—When the fourth nerve was covered with cotton soaked in a normal salt solution, the application of the faradic current to the cotton produced accommodation. When the cotton was soaked in a one per cent solution of atropine sulphate in a normal salt solution, such application produced no accommodation, but stimulation of the third nerve did produce it.



No. 3.—When the third nerve was covered with cotton soaked in a normal salt solution, the application of the faradic current to the cotton produced accommodation. When the cotton was soaked with atropine sulphate in a normal salt solution, such application produced no accommodation, but the stimulation of the fourth nerve did produce it.

No. 4.—When both nerves were covered with cotton soaked in atropine sulphate in a normal salt solution, the application of electricity to the cotton produced no accommodation. When the parts had been washed with a warm salt solution electrical stimulation of either nerve always produced accommodation. The nerves were alternately covered with the atropine-soaked cotton and then washed with the warm saline solution for an hour, the electricity being applied in each condition with invariably the same result. Accommodation could never be produced by electrical stimulation when the nerves were paralyzed with the atropine, but always resulted from the stimulation of either or both when they had been washed with the salt solution. The experiment was performed with the same results on many rabbits and dogs.

ways resulted in the normal eye. When the origin of either nerve was covered with a small wad of cotton soaked in a two per cent solution of atropine sulphate in a normal salt solution, stimulation of that nerve produced no accommodation, while stimulation of the unparalyzed nerve did produce it. When the origin of both nerves was covered with cotton soaked in atropine, accommodation could not be produced by electrical stimulation of either or both. When the cotton was removed and the nerves washed with normal salt solution, elec-

trical stimulation of either or both produced accommodation just as before the atropine had been applied. This experiment, which was performed repeatedly for more

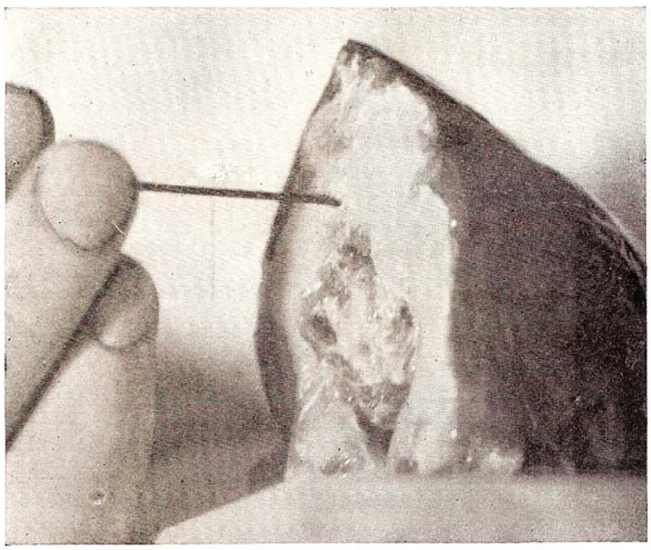


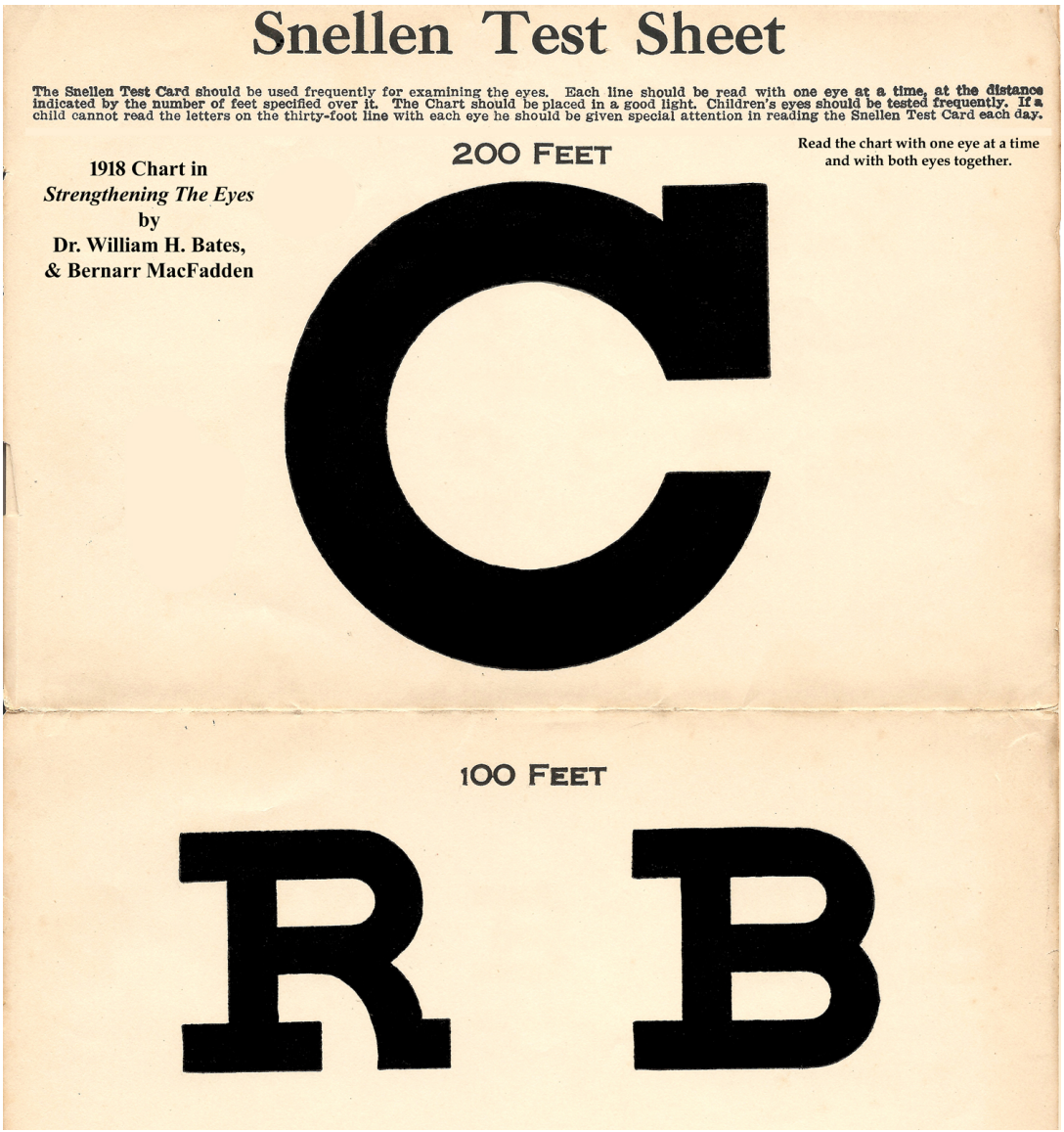
Fig. 23. Pithing a Fish Preparatory to Operating Upon Its Eyes

The object of this operation is to secure greater relaxation of the muscles of the eyes and head, which would work for hours, without external stimulus, if the brain cells were not destroyed by the probe.

than an hour by alternately applying and removing the atropine, not only demonstrated clearly what had not been known before, namely, that the fourth nerve is a nerve of accommodation, but also demonstrated that the

superior oblique muscle which is supplied by it is an important factor in accommodation. It was further found that when the action of the oblique muscles was prevented by dividing them, the stimulation of the third nerve produced, not accommodation, but hypermetropia.

In all the experiments all sources of error are believed to have been eliminated. They were all repeated many times and always with the same result. They seemed, therefore, to leave no room for doubt that neither the lens nor any muscle inside the eyeball has anything to do with accommodation, but that the process whereby the eye adjusts itself for vision at different distances is entirely controlled by the action of the muscles on the outside of the globe.



CHAPTER V

THE TRUTH ABOUT ACCOMMODATION AS DEMONSTRATED BY A STUDY OF IMAGES REFLECTED FROM THE LENS, CORNEA, IRIS AND SCLERA

AS the conclusions in which the experiments described in the preceding chapter pointed were diametrically opposed to those reached by Helmholtz in his study of the images reflected from the front of the lens, I determined to repeat the experiments of the German investigator and find out, if possible, why his results were so different from my own. I devoted four years to this work, and was able to demonstrate that Helmholtz had erred through a defective technique, the image obtained by his method being so variable and uncertain that it lends itself to the support of almost any theory.

I worked for a year or more with the technique of Helmholtz, but was unable to obtain an image from the front of the lens which was sufficiently clear or distinct to be measured or photographed. With a naked candle as the source of light a clear and distinct image could be obtained on the cornea; on the back of the lens it was quite clear; but on the front of the lens it was very imperfect. Not only was it blurred, just as Helmholtz stated, but without any ascertainable cause it varied greatly in size and intensity. At times no reflection could be obtained at all, regardless of the angle of the light to the eye of the subject, or of the eye of the observer to that of the subject. With a diaphragm I got

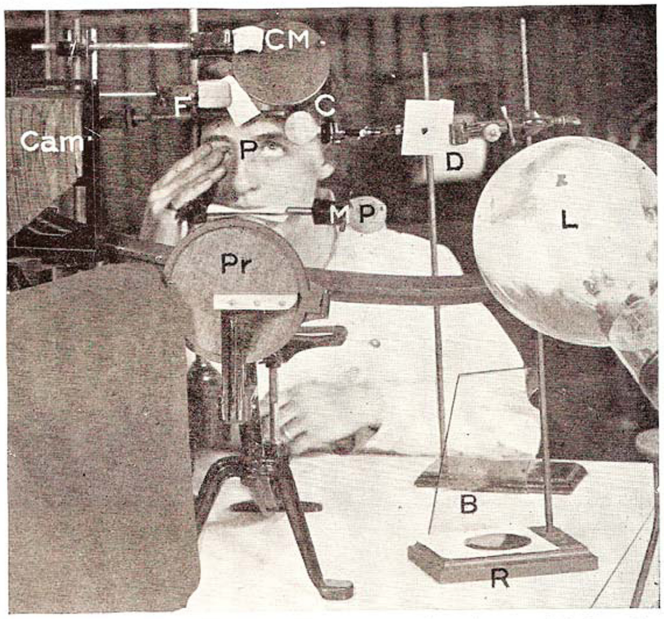


Fig. 24.—Arrangements for Photographing Images Reflected From the Eyeball

CM, concave mirror in which the subject may observe the images reflected from various parts of her eye; C, condenser; D, diaphragm; L, 1000-watt lamp; F, forehead rest; MP, bar which the subject grasps with her teeth for the purpose of holding her head steady; P, plane mirror upon which is pasted a letter of diamond type and in which is reflected a Snellen test card twenty feet behind the subject (the mirror is just above the letter P); CAM, camera; Pr, perimeter used to measure the angle of the light to the eye; R, plane mirror reflecting light from the 1000-watt lamp upon the eye, which otherwise would be in total darkness except for the part from which the highly condensed image of the filament is reflected; B, blue glass screen used to modify the light reflected from the mirror R. When the subject read the bottom line of the Snellen test card reflected in the mirror P, her eye was at rest, and when she saw the letter of diamond type distinctly it was accommodated ten diopters, as demonstrated by the retinoscope.

Pictures of the eye, eye muscles, nerves under Dr. Bates' page-Fig. 24 and on page 56, 57, 58 are from the book;

An Atlas Of Human Anatomy
For Students And Physicians

By Carl Toldt, M.D. Professor Of Anatomy In The University Of Vienna. London and New York. 1904.

Preserved By;

THE PERIPHERAL NERVOUS SYSTEM—CRANIAL NERVES

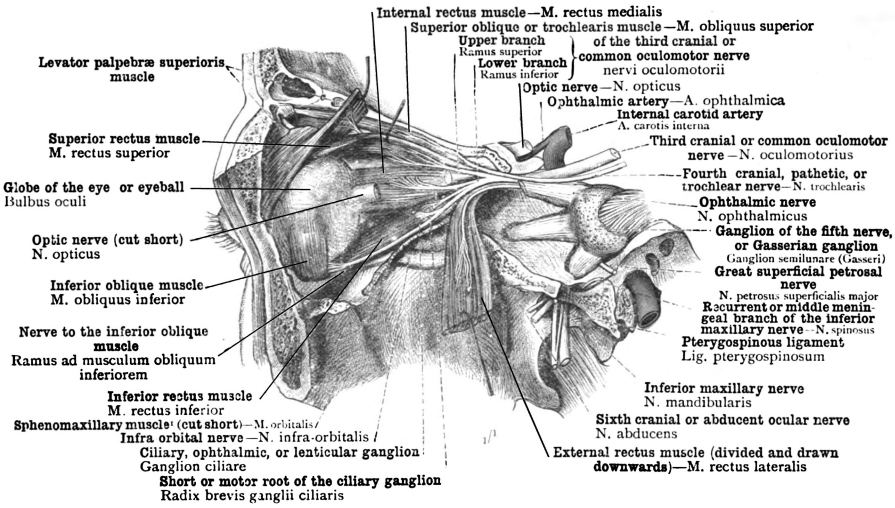


FIG. 1309.—THE NERVES OF THE EXTERNAL MUSCLES OF THE EYE: THIRD CRANIAL OR COMMON OCULOMOTOR NERVE, N. OCULOMOTORIUS, FOURTH CRANIAL, PATHETIC, OR TROCHLEAR NERVE, N. TROCHLEARIS, AND SIXTH CRANIAL OR ABDUCENT OCULAR NERVE, N. ABDUCENS, DISPLAYED BY THE REMOVAL OF THE OUTER AND UPPER WALLS OF THE LEFT ORBIT.

The levator palpebræ superioris and external rectus muscles have been cut across and turned aside.

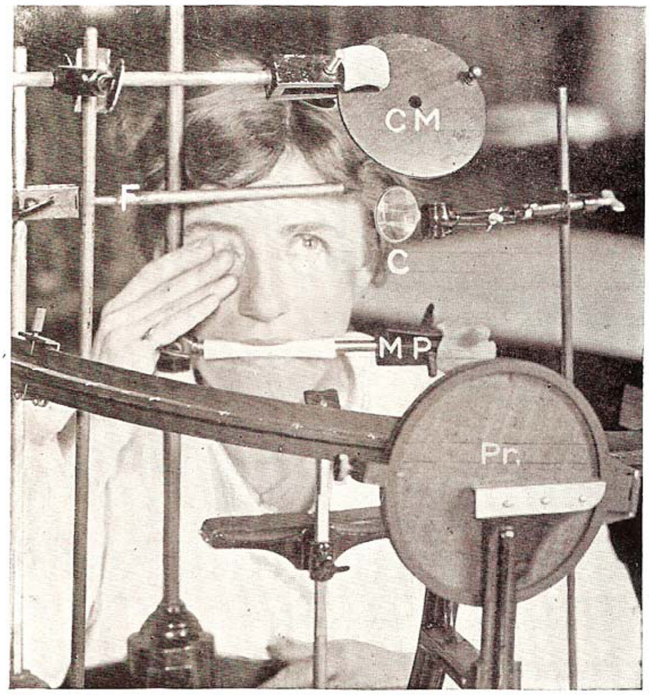
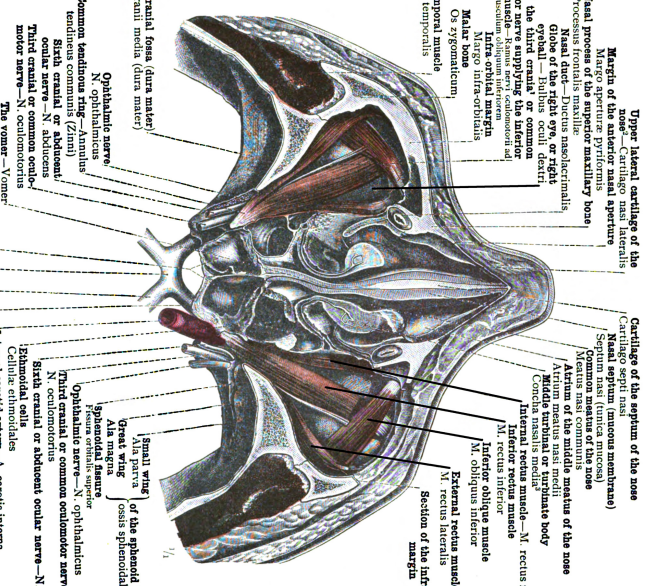


Fig. 25. Arrangements for Holding the Head of the Subject Steady While Images Were Being Photographed

CM, concave mirror; F, forehead rest; C, condenser, MP, mouthpiece; Pr, perimeter.

a clearer and more constant image, but it still was not sufficiently reliable to be measured. To Helmholtz the indistinct image of a naked flame seemed to show an appreciable change, while the images obtained by the aid of the diaphragm showed it more clearly; but I was



THE POSITION OF THE EYEBALL IN THE ORBIT, AND THE RELATIONS OF THE MUSCLES OF THE ORBIT TO THE EYEBALL. SEEN FROM BELOW.

In the facial portion of a head previously hardened in chromic acid and alcohol, a horizontal section was carried backwards beneath the infra-orbital margins through the body of the sphenoid bone and the inner portions of the sphenoidal fissures. In the upper segment, by the removal of the orbital cone of fat, the orbital muscles accessible from below have been displayed. On the left side the infra-orbital margin has been completely removed.

unable, either with a diaphragm or without it, to obtain images which I considered sufficiently distinct to be reliable.

Men who had been teaching and demonstrating Helmholtz's theory repeated his experiments for my benefit; but the images which they obtained on the front of the lens did not seem to me any better than my own. After

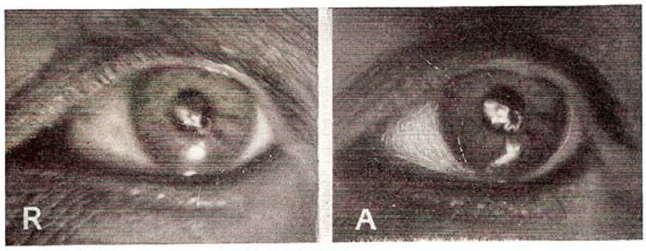


Fig. 26. Image of Electric Filament on the Front of the Lens

R, rest; A, accommodation. Under the magnifying glass no change can be observed in the size of the two images. The image at the right looks larger only because it is more distinct. To support the theory of Helmholz it ought to be the smaller. The comet's tail at the left of the two images is an accidental reflection from the cornea. The spot of light beneath is a reflection from the light used to illuminate the eye while the photographs were being taken. It took two years to get these pictures.

studying these images almost daily for more than a year I was unable to make any reliable observation regarding the effect of accommodation upon them. In fact, it seemed that an infinite number of appearances might be obtained on the front of the lens when a candle was used as the source of illumination. At times the image became smaller during accommodation and seemed to sustain the theory of Helmholtz; but just as frequently it became larger. At other times it was impossible to tell what it did.

THE ORGANS OF THE SENSES—THE EYE

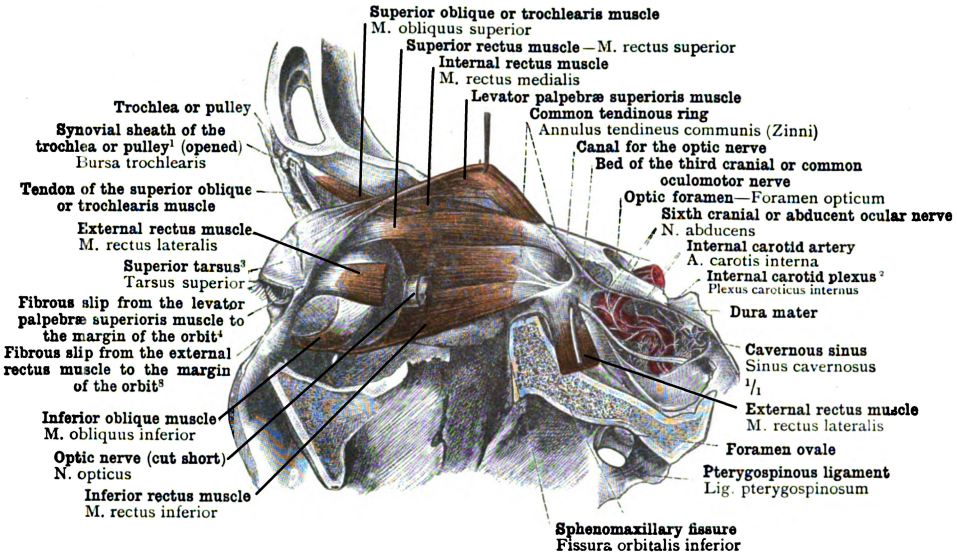


FIG. 1370.—THE MUSCLES OF THE ORBIT FROM THE TEMPORAL SIDE. LEFT EYE.

After the superior and external walls of the orbit had been removed, the external rectus muscle was cut across, its posterior segment was turned downwards, and the optic nerve was excised.

With a thirty-watt lamp, a fifty-watt lamp, a 250-watt lamp and a 1000-watt lamp, there was no improvement. The light of the sun reflected from the front of the lens produced an image just as cloudy and uncertain as the reflections from other sources of illumination, and just as variable in shape, intensity and size. To sum it all up, I was convinced that the anterior surface of the lens

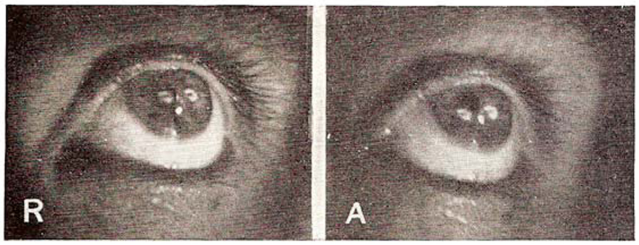


Fig. 27. Images of the Electric Filament Reflected Simultaneously From the Cornea and Lens

R, rest; A, accommodation. The size of the images in both pictures is the same. The corneal image is so small that it has not been noticeably altered by the slight change that takes place in the cornea during accommodation. In A both images have changed their position and the end of the reflection from the lens has been cut off by the iris, but its width remains the same. The white spot between the two images of the filament is a reflection from the lamp used to illuminate the eye. Note that in A more of the sclera is visible, owing to the elongation of the eyeball during accommodation.

was a very poor reflector of light, and that no reliable images could be obtained from it by the means described.

After a year or more of failure I began to work at an aquarium on the eyes of fish. It was a long story of failure. Finally I became able, with the aid of a strong light—1000 watts—a diaphragm with a small opening and a condenser, to obtain, after some difficulty, a clear

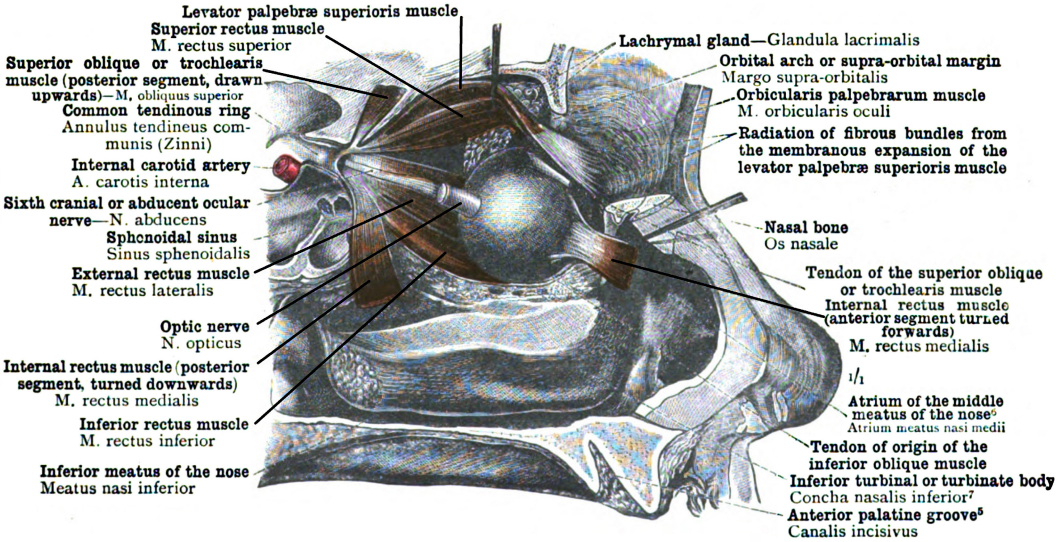


FIG. 1371.—THE MUSCLES OF THE ORBIT FROM THE NASAL SIDE. LEFT EYE.

After the internal and part of the superior walls of the orbit had been removed, the internal rectus muscle was cut across, its anterior segment being turned forwards, its posterior segment downwards, and the optic nerve was excised. Of the superior oblique or trochlearis muscle, the posterior extremity and a portion of the tendon of insertion were retained; the inferior oblique muscle was cut across near its origin.

Musculi oculi—The muscles of the eyeball.

and distinct image from the cornea of fish. This image was sufficiently distinct to be measured, and after many months a satisfactory photograph was obtained. Then the work was resumed on the eyes of human beings. The strong light, combined with the diaphragm and condenser, the use of which was suggested by their use to improve the illumination of a glass slide under the microscope, proved to be a decided improvement over the method of Helmholtz, and by means of this technique an image was at last obtained on the front of the lens which was sufficiently clear and distinct to be photographed. This was the first time, so far as published records show, that an image of any kind was ever photographed from the front of the lens. Professional photographers whom I consulted with a view to securing their assistance assured me that the thing could not be done, and declined to attempt it. I was therefore obliged to learn photography, of which I have previously known nothing, myself, and I then found that so far as the image obtained by the method of Helmholtz is concerned the professionals were right.

The experiments were continued until, after almost four years of constant labor, I obtained satisfactory pictures before and after accommodation and during the production of myopia and hypermetropia, not only of images on any surface at will without reflections from the iris, cornea, the front of the sclera (white of the eye) and the side of the sclera. I also became able to obtain images on any surface at will without reflections from the other parts. Before these results were obtained, however, many difficulties had still to be overcome.

Complicating reflections were a perpetual source of trouble. Reflections from surrounding objects were easily

The pictures below and on page 60, 257, 253 are from;

Cunningham's Text-Book Of Anatomy By Professor Daniel Johannes Cunningham.

Preserved By;

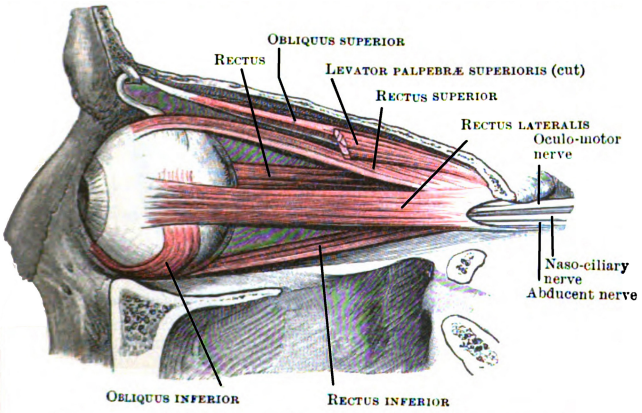
Harvard Medical Library In The Francis A. Countway Library Of Medicine.

New York, 1902 - 1913

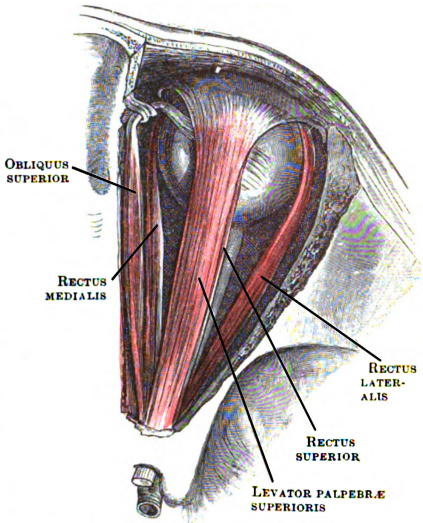
Oliver Sheppard, R.H.A., fecit.

DANIEL JOHANNES CUNNINGHAM ADHUC LOQUITUR.

Demonstrator of Anatomy, University of Edinburgh, 1874–1882.
Professor of Anatomy, Royal College of Surgeons, Dublin, 1882–1883.
Professor of Anatomy, Trinity College, Dublin, 1883–1903.
Professor of Anatomy, University of Edinburgh, 1903–1909.



Muscles of the Left Orbit (from lateral aspect).



Muscles of the Right Orbit (from above).

prevented; but those from the sides of the globe of the electric light were difficult to deal with, and it was useless to try to obtain images on the front of the lens until they had been eliminated, or reduced to a minimum, by

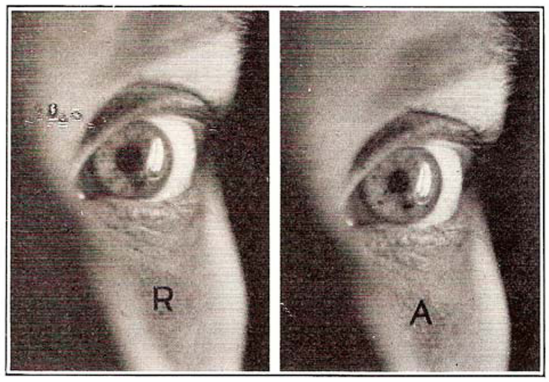
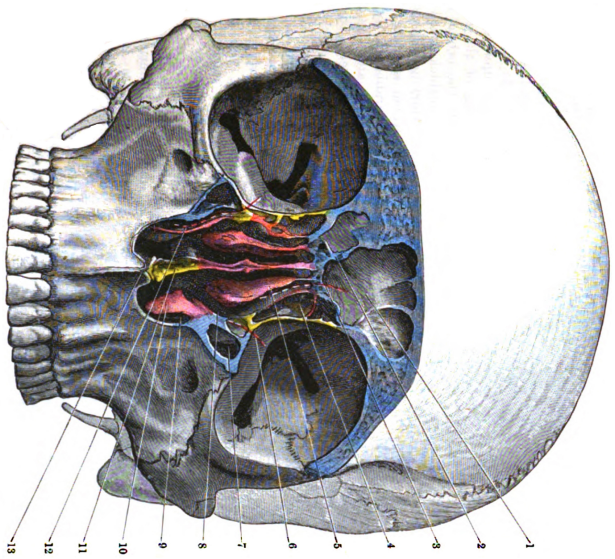


Fig. 28. Image of Electric Filament Upon the Cornea

R, rest; A, accommodation. The image is smaller in A, but the change is so slight as to be scarcely noticeable, showing that the alteration in the shape of the cornea during accommodation is very slight. For this reason the ophthalmometer, with its small image, has been thought to demonstrate that the cornea did not change during accommodation.

a proper adjustment of the light. The same apparent adjustment did not, however, always give similar results. Sometimes there would be no reflections for days; then would come a day when, with the light apparently at the same angle, they would reappear.

With some adjustments of the light multiple images were seen reflected from the front of the lens. Sometimes these images were arranged in a horizontal line, sometimes in a vertical one and sometimes at angles of



PART OF THE FRONTAL, NASAL, AND MAXILLARY BONES REMOVED IN ORDER TO DISPLAY THE RELATION OF THE VARIOUS CAVITIES EXPOSED.

The frontal and maxillary bones, where cut, are coloured blue; the ethmoid and the inferior concha red; the lacrimal and vomer yellow.

1. Frontal sinus.
2. Septum of frontal sinus deflected towards the right.
3. Infundibulum leading from sinus to middle meatus.
4. Anterior ethmoidal air-sinuses.
5. Middle concha.
6. Bel line in upper part of osseous canal for naso-lacrimal duct; laid open throughout its entire length on the right side.
7. Cavity of maxillary sinus laid open.
8. Middle meatus of nose.
9. Inferior meatus of nose.
10. Inferior concha.
11. Nasal septum.
12. Canal for naso-lacrimal duct laid open throughout its entire length.
13. Anterior nasal spine.

different degrees, while their distance from each other also varied. Usually there were three of them; sometimes there were more; and sometimes there were only two. Occasionally they were all of the same size, but usually they varied, there being apparently no limit to their possibilities of change in this and other respects. Some of them were photographed, indicating that they were real reflections. Changes in the distance of the diaphragm from the light and from the condenser, and alterations in the size and shape of its opening, appeared to make no difference. Different adjustments of the condenser were equally without effect. Changes in the angle at which the light was adjusted sometimes lessened the number of images and sometimes increased them, until at last an angle was found at which but one image was seen. The images appear, in fact, to have been caused by reflections from the globe of the electric light.

Even after the light had been so adjusted as to eliminate reflections it was often difficult, or impossible, to get a clear and distinct image of the electric filament upon the front of the lens. One could. rearrange the condenser and the diaphragm and change the axis of fixation, and still the image would be clouded or obscured and its outline distorted. The cause of the difficulty appeared to be that the light was not adjusted at the best angle for the purpose and it was not always possible to determine the exact axis at which a clear, distinct image would be produced. As in the case of the reflections from the sides of the globe, it seemed to vary without a known cause. This was true, however: that there were angles of the axis of the globe which gave better images than others, and that what these angles were could not be determined with exactness. I have

labored with the light for two or three hours without finding the right angle. At other times the axis would remain unchanged for days, giving always a clear, distinct image.

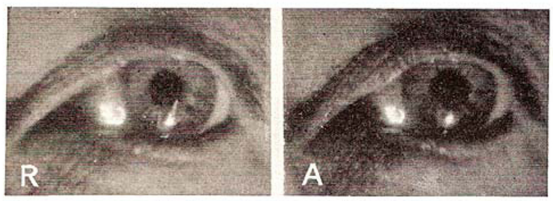


Fig. 29. Image of Electric Filament on the Front of the Sclera

R, rest; A, accommodation. During accommodation the front of the sclera becomes more convex, because the eyeball has elongated, just as a camera is elongated when it is focussed upon a near object. The spot of light on the cornea is an accidental reflection.

The results of these experiments confirmed the conclusions drawn from the previous ones, namely, that accommodation is due to a lengthening of the eyeball, and not to a change in the curvature of the lens. They also confirmed, in a striking manner, my earlier conclusions as to the conditions under which myopia and hypermetropia are produced.[1]

The images photographed from the front of the lens did not show any change in size or form during accommodation. The image on the back of the lens also remained unchanged, as observed through the telescope of the ophthalmometer; but as there is no dispute about its behavior during accommodation, it was not photographed. Images photographed from the iris before

[1] Bates: The Cause of Myopia, N. Y. Med. Jour., March 16, 1912.

and during accommodation were also the same in size and form, as was to be expected from the character of the lens images. If the lens changed during accommodation, the iris, which rests upon it, would change also.

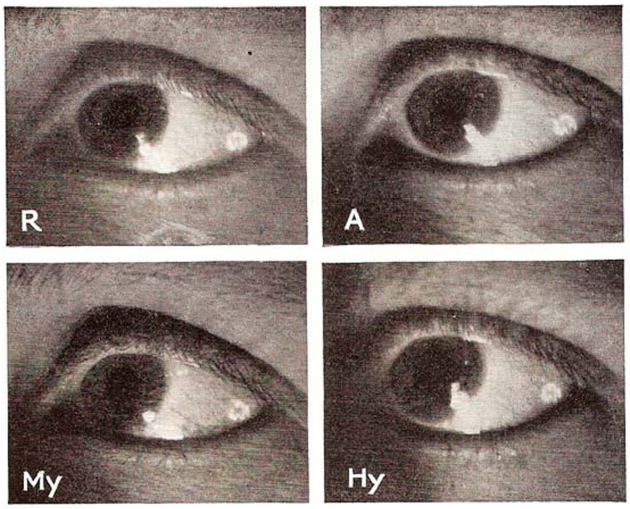
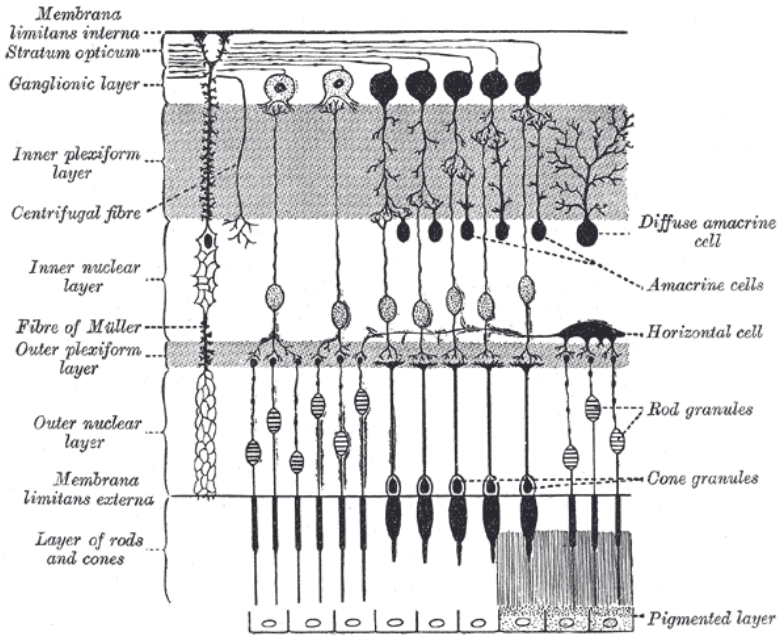


Fig. 30. Images on the Side of the Sclera

R, rest; A, accommodation. The image in A is the larger, indicating a flattening of the side of the sclera as the eyeball elongates. My, Myopia. The eye is straining to see at the distance and the image is larger, indicating that the eyeball has elongated, resulting in a flattening of the side of the sclera. Hy, Hypermetropia. The eye is straining to see at two inches. The image is the smallest of the series, indicating that the eyeball has become shorter than in any of the other pictures, and the side of the sclera more convex. The two lower pictures confirm the author's previous observations that farsight is produced when the eye strains to see near objects and nearsight when it strains to see distant objects.



Plan of retinal neurons. (After Cajal.)

Picture from; *Anatomy Of The Human Body*

The images photographed from the cornea and from the front and side of the sclera showed, however, a series

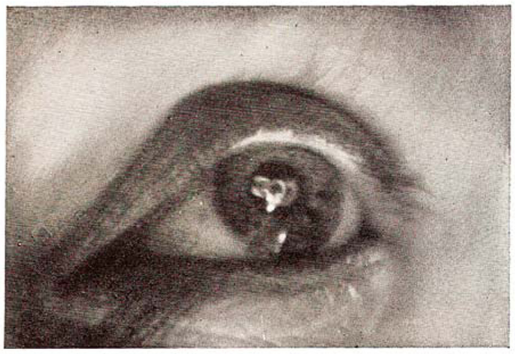
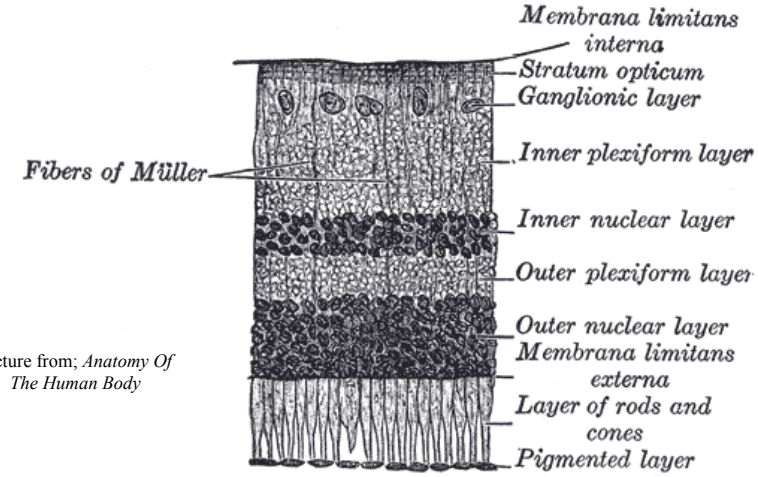


Fig. 31. Multiple Images Upon the Front of the Lens

This picture illustrates one of the difficulties that had to be overcome in photographing images reflected from various parts of the eyeball. Unless the light was adjusted at precisely the right angle the filament was multiplied by reflection from the sides of the globe. Usually the image was doubled, sometimes it was tripled, as shown in the picture, and sometimes it was quadrupled. Often days of labor were required to eliminate these reflections, and for reasons that were not definitely determined the same adjustment did not always give the same results. Sometimes all would go well for days, and then, without any apparent reason, the multiple images would return.

of four well-marked changes, according to whether the vision was normal or accompanied by a strain. During accommodation the images from the cornea were smaller than when the eye was at rest, indicating elongation of the eyeball and a consequent increase in the convexity of the cornea. But when an unsuccessful effort was made to see at the near-point, the image became larger, indicating that the cornea had become less convex, a condi-



Picture from; *Anatomy Of The Human Body*

Section of retina. (Magnified.)

tion which one would expect when the optic axis was shortened, as in hypermetropia. When a strain was made to see at a distance the image was smaller than when the eye was at rest, again indicating elongation of the eyeball and increased convexity of the cornea.

The images photographed from the front of the sclera showed the same series of changes as the corneal images, but those obtained from the side of the sclera were found to have changed in exactly the opposite manner, being larger where the former were smaller and vice versa, a

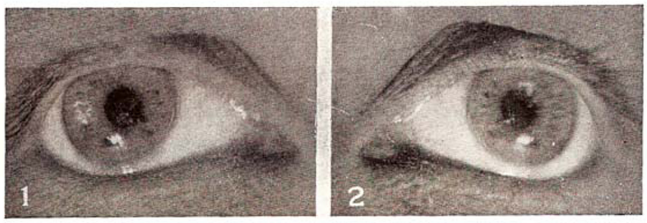
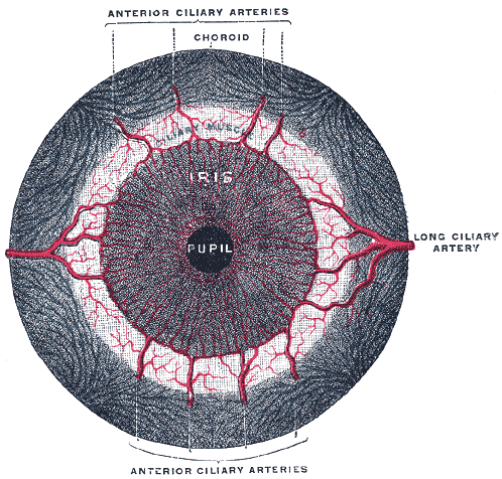


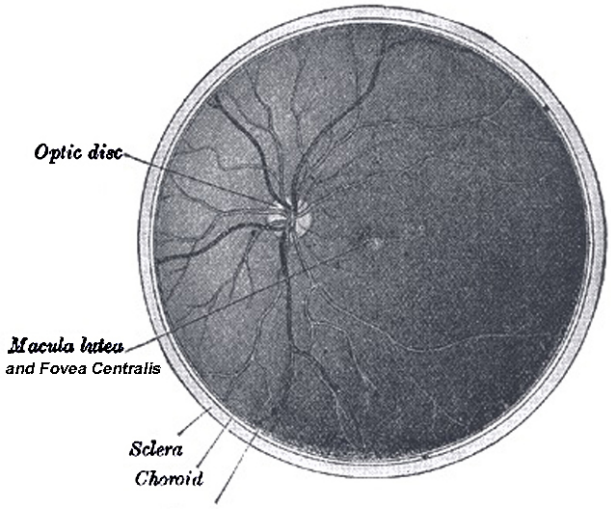
Fig. 32. Reflection of the Electric Filament From the Iris

This picture is shown to illustrate the fact that it is possible to get a reflection from any reflecting surface of the eyeball without reflections from the other parts, although these may be exposed. This is done by changing the angle of the light to the eye. In No. 1 observations of the eye at the time the picture was taken demonstrated that the image was from the iris, not from the cornea, and the fact is also apparent in the picture. (Compare the image with the corneal reflection in Fig. 28.) In No. 2, where the image overlaps the margin of the pupil, the fact that the reflection is from the iris is manifest from the circumstance that only part of the filament is seen. If it were from the cornea, the whole of it would be reflected. Note in this picture that there is no reflection from the lens. The images on the iris did not change their size or shape during accommodation, demonstrating again that the lens, upon which the iris rests, does not change its shape when the eye adjusts itself for near vision.



Iris, front view

Pictures from; *Anatomy Of The Human Body*



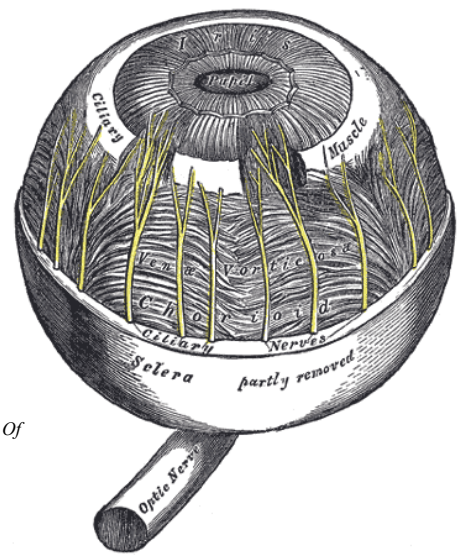
Interior of posterior half of bulb of left eye. The veins are darker in appearance than the arteries.

difference which one would naturally expect from the fact that when the front of the sclera becomes more convex the sides must become flatter.

When an effort was made to see at a distance the image reflected from the side of the sclera was larger than the image obtained when the eye was at rest, indicating that this part of the sclera had become less convex or flatter, because of elongation of the eyeball. The image obtained during normal accommodation was also larger than when the eye was at rest, indicating again a flattening of the side of the sclera. The image obtained, however, when an effort was made to see near was much smaller than any of the other images, indicating that the sclera had become more convex at the side, a condition which one would expect when the eyeball was shortened, as in hypermetropia.

The most pronounced of the changes were noted in the images reflected from the front of the sclera. Those on the side of the sclera were less marked, and, owing to the difficulty of photographing a white image on a white background, could not always be readily seen on the photographs. They were always plainly apparent, however, to the observer, and still more so to the subject, who regarded them in a concave mirror. The alterations in the size of the corneal image were so slight that they did not show at all in the photographs, except when the image was large, a fact which explains why the ophthalmometer, with its small image, has been thought to show that the cornea did not change during accommodation. They were always apparent, however, to the subject and observer.

The corneal image was one of the easiest of the series to produce and the experiment is one which almost any-



The choroid and iris. (Enlarged.)

Picture from; *Anatomy Of The Human Body*

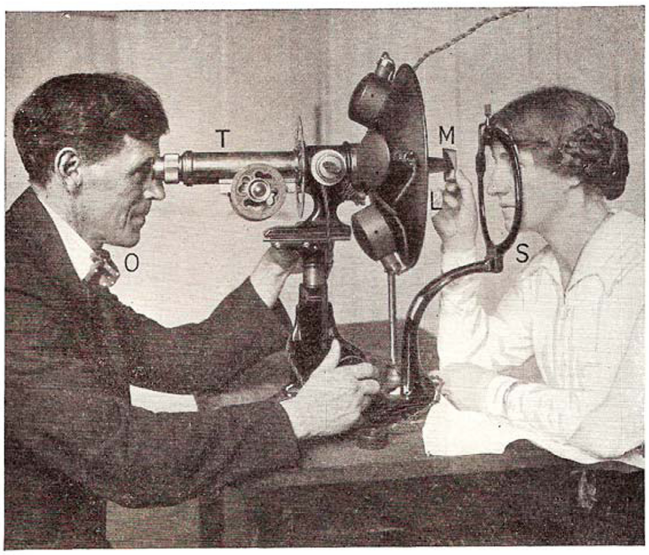


Fig. 33. Demonstrating That the Back of the Lens Does Not Change During Accommodation

The filament of an electric light (L) is shining into the eye of the subject (S), and the reflection on the back of the lens can be seen by the observer (O) in the telescope (T). The subject holds in her hand, at a distance of four inches, a mirror on which is pasted a small letter, and in which is reflected a Snellen test card hung above and behind her head at a distance of twenty feet. The retinoscope reveals that when she looks at the reflection of the test card and reads the bottom line the eye is at rest, and that when she looks at the letter pasted on the mirror it accommodates. The image on the lens does not change during these changes of focus. The telescope is the telescope of the ophthalmometer, the prisms having been removed. As there is no dispute about the behavior of the back of the lens during accommodation this image was not photographed.

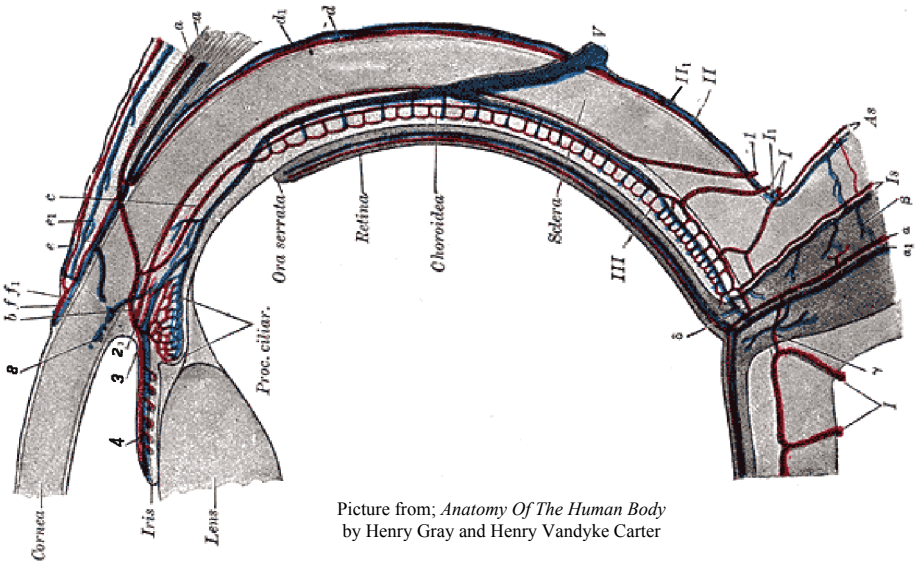
Picture below; Diagram of the blood vessels of the eye, as seen in a horizontal section. (Leber, after Stöhr.)

Course of vasa centralia retinæ:
a. Arteria. a.1 Vena centralis retinæ. B. Anastomosis with vessels of outer coats.
C. Anastomosis with branches of short posterior ciliary arteries.
D. Anastomosis with chorioideal vessels.

Course of vasa ciliar. postic. brev.:
I. Arteriæ, and I1. Venæ ciliar. postic. brev. II. Episcleral artery. II1. Episcleral vein. III. Capillaries of lamina choriocapillaris.

Course of vasa ciliar. postic. long.:
1. a. ciliar. post. longa. 2. Circulus iridis major cut across. 3. Branches to ciliary body. 4. Branches to iris.

Course of vasa ciliar. ant.:
a. Arteria. a1. Vena ciliar. ant.
b. Junction with the circulus iridis major. c. Junction with lamina choriocapill. d. Arterial, and d1. Venous episcleral branches.
e. Arterial, and e1. Venous branches to conjunctiva scleræ.
f. Arterial, and f1. Venous branches to corneal border.
V. Vena vorticosa. S. Transverse section of sinus venosus scleræ.



Picture from; *Anatomy Of The Human Body* by Henry Gray and Henry Vandyke Carter

one can repeat, the only apparatus required being a fifty candlepower lamp—an ordinary electric globe—and a concave mirror fastened to a rod which moves back and forth in a groove so that the distance of the mirror from the eye can be altered at will. A plane mirror might also be used; but the concave glass is better, because it magnifies the image. The mirror should be so arranged that it reflects the image of the electric filament on the cornea, and so that the eye of the subject can see this reflection by looking straight ahead. The image in the mirror is used as the point of fixation, and the distance at which the eye focuses is altered by altering the distance of the mirror from the eye. The light can be placed within an inch or two of the eye, as the heat is not great enough to interfere with the experiment. The closer it is the larger the image, and according to whether it is adjusted vertically, horizontally, or at an angle, the clearness of the reflection may vary. A blue glass screen can be used, if desired, to lessen the discomfort of the light. If the left eye is used by the subject—and in all the experiments it was found to be the more convenient for the purpose—the source of light should be placed to the left of that eye and as much as possible to the front of it, at an angle of about forty-five degrees. For absolute accuracy the light and the head of the subject should be held immovable, but for demonstration this is not essential. Simply holding the bulb in his hand the subject can demonstrate that the image changes according to whether the eye is at rest, accommodating normally for near vision, or straining to see at a near or a distant point.

In the original report were described possible sources of error and the means taken to eliminate them.

See page 323 for pictures, discussion about experiments, discovery by eye doctors; they state they have proved that the eye's lens produces accommodation, changes shape when looking close and far and the eyeball also changes shape, lengthens a bit when looking close and returns to a round shape when looking far. This occurs with the lens as it changes shape.

The lens and eye, inner ciliary, iris muscles and outer oblique, recti eye muscles must all work correct so these functions occur together-perfect for clear eyesight at close and far distances. Dr. William H. Bates, Dr. Arlt and Herman Helmholtz's observations were correct. Proof; Eye Experiment, Articles on PubMed.gov - Eye Elongation During Accommodation in Humans - Differences Between Emmetropes and Myopes; http://www.ncbi.nlm.nih.gov/pubmed/9761293
U. S. National Library of Medicine; https://www.nlm.nih.gov/ Article is also preserved on other ophthalmology websites.

Some Bates Method teachers state; "The eye doctors who claim; *the lengthening of the eye during accommodation is slight, thus it cannot produce accommodation* are lying". If they tell the truth; *the lengthening of the eye produces accommodation, focuses light rays*; this fact will affect many of ophthalmology, optometry, optics' old orthodox beliefs, the foundation of the vision-eye care business. They will have to admit that Dr. Bates is right and eyesight can be cured naturally without glasses.

CHAPTER VI

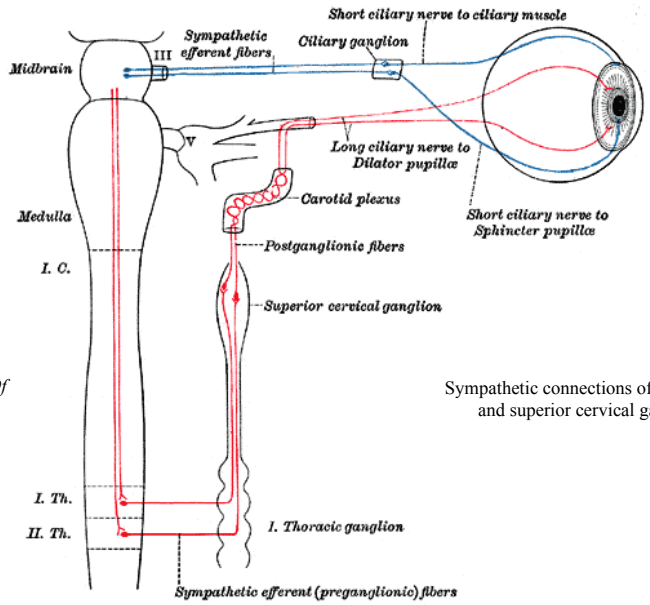
THE TRUTH ABOUT ACCOMMODATION AS DEMONSTRATED BY CLINICAL OBSERVATIONS

THE testimony of the experiments described in the preceding chapters to the effect that the lens is not a factor in accommodation is confirmed by numerous observations on the eyes of adults and children, with normal vision, errors of refraction, or amblyopia, and on the eyes of adults after the removal of the lens for cataract.

It has already been pointed out that the instillation of atropine into the eye is supposed to prevent accommodation by paralyzing the muscle credited with controlling the shape of the lens. That it has this effect is stated in every text-book on the subject,[1] and the drug is daily used in the fitting of glasses for the purpose of eliminating the supposed influence of the lens upon refractive states.

In about nine cases out of ten the conditions resulting from the instillation of atropine into the eye fit the theory upon which its use is based; but in the tenth case they do not, and every ophthalmologist of any experience has noted some of these tenth cases. Many of them are reported in the literature, and many of them have come under my own observation. According to the theory,

[1] Certain substances have the power of producing a dilation of the pupil (mydriasis), and hence are termed mydriatics. At the same time they act upon the ciliary body, diminishing and, when applied in sufficient strength, completely paralyzing the power of accommodation, thus rendering the eye for some time unalterably focussed for the farthest point.—Herman Snellen, Jr.: Mydriatics and Myotics, System of Diseases of the Eye, edited by Norris and Oliver, 1897-1900, vol. ii, p. 30.



Picture from; *Anatomy Of The Human Body*

Sympathetic connections of the ciliary and superior cervical ganglia.

atropine ought to bring out latent hypermetropia in eyes either apparently normal, or manifestly hypermetropic, provided, of course, the patient is of the age during which the lens is supposed to retain its elasticity. The fact is that it sometimes produces myopia, or changes hypermetropia into myopia, and that it will produce both myopia and hypermetropia in persons over seventy years of age, when the lens is supposed to be as hard as a stone, as well as in cases in which the lens is hard with incipient cataract. Patients with eyes apparently normal will, after the use of atropine, develop hypermetropic astigmatism, or myopic astigmatism, or compound myopic astigmatism, or mixed astigmatism.[1] In other cases the drug will not interfere with the accommodation, or alter the refraction in any way. Furthermore, when the vision has been lowered by atropine the subjects have often become able, simply by resting their eyes, to read diamond type at six inches. Yet atropine is supposed to rest the eyes by affording relief to an overworked muscle.

In the treatment of squint and amblyopia I have often used atropine in the better eye for more than a year, in order to encourage the use of the amblyopic eye; and at the end of this time, while still under the influence of atropine, such eyes have become able in a few hours, or less, to read diamond type at six inches (see Chapter XXII). The following are examples of many similar cases that might be cited:

A boy of ten had hypermetropia in both eyes, that of

[1] In simple hypermetropic astigmatism one principal meridian is normal and the other, at right angles to it, is flatter. In simple myopic astigmatism the contrary is the case; one principal meridian is normal and the other, at right angles to it, more convex. In mixed astigmatism one principal meridian is too flat, the other too convex. In compound hypermetropic astigmatism both principal meridians are flatter than normal, one more so than the other. In compound myopic astigmatism both are more convex than normal, one more so than the other.

Pictures Are From;

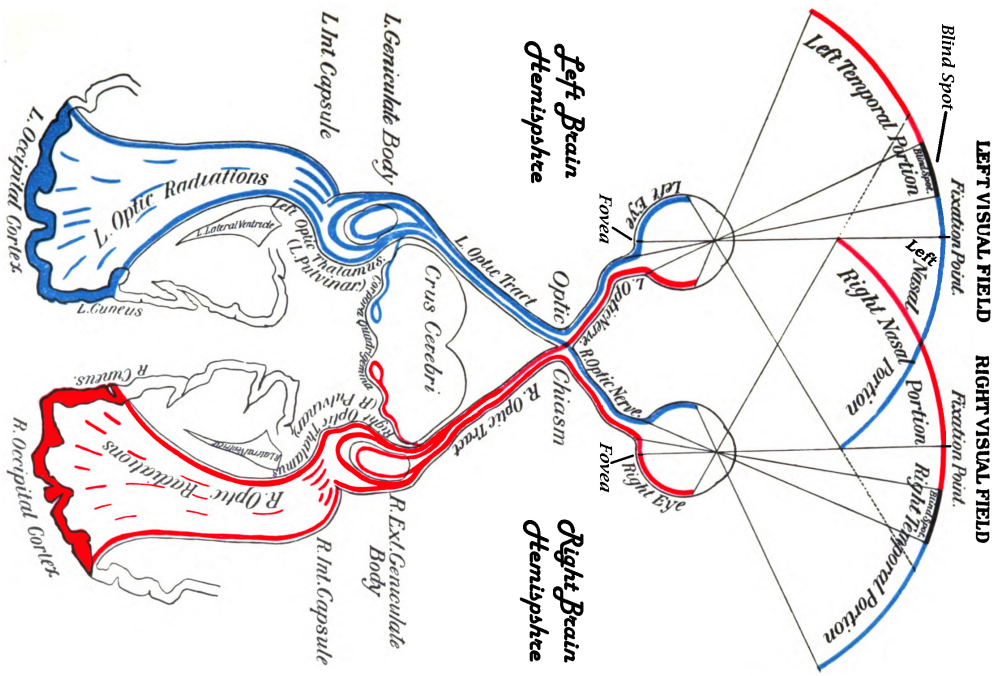
A Manual Of Diseases Of The Eye For Students And General Practitioners.

By Clarence A. Veasey, A.M., M.D. 1903

Demonstrator Of Ophthalmology In *The Jefferson Medical College.*
Assistant Ophthalmic Surgeon To *The Jefferson Medical College Hospital.*
Ophthalmic Surgeon To *The Methodist Episcopal Hospital.*
Consulting Ophthalmologist To *The Philadelphia Lying-In-Charity.*

The brain works with the eyes, retina, lens, cornea.., eye muscles and vision. Relax the mind, activate and integrate the left and right brain hemispheres for; relaxed eye muscles, correct eye movements, perfect, equally clear vision in the left and right eyes at all distances, close, middle and far.

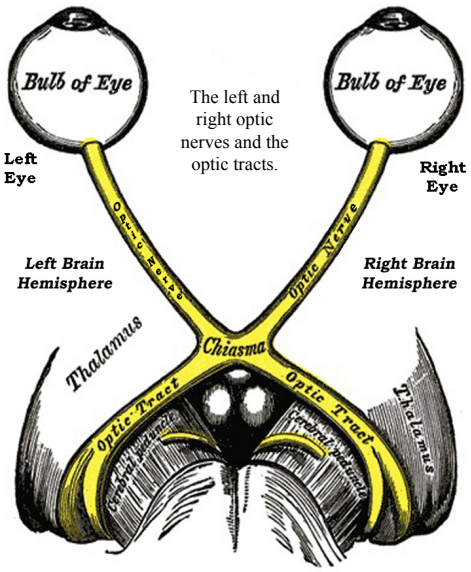
All Bates Method practices relax the mind/ brain and activate, integrate the left and right brain hemispheres; Shifting, central-fixation, switching (looking) close-middle-far, shifting-central-fixation-switching with both eyes together and one eye at a time. The long swing, sway, cross crawl, figure eight, the opposite swing, movement with dexterity, palming, using colors, improving the memory and imagination, brain skills... All practices are in this book.



Diagrams showing the visual field-eyes-optic nerve-tract are drawn different by various doctors; *the eyes facing a bit outward, or with the eyes facing straight ahead.* The true position is; the left and right eyes are aligned, their foveas, central fields (fixation points) face straight ahead at the object of attention. The left, right eyes' fixation points (created by the eyes' foveas) merge into one point, between the eyes (the exact central field). Note the diagram's optic nerve, position of the fixation point and its visual axis line to the eye's fovea. The fovea is on the retina to the side of-away from the optic nerve/disk. The optic nerve's disk produces a blind spot in the eye's temporal visual field. See black line in field.

the left or better eye amounting to three diopters. When atropine was instilled into this eye the hypermetropia was increased to four and a half diopters, and the vision lowered to 20/200. With a convex glass of four and a half diopters the patient obtained normal vision for the distance, and with the addition of another convex glass of four diopters he was able to read diamond type at ten inches (best). The atropine was used for a year, the pupil being dilated continually to the maximum. Meantime the right eye was being treated by methods to be described later. Usually in such cases the eye which is not being specifically treated improves to some extent with the others, but in this case it did not. At the end of the year the vision of the right eye had become normal; but that of the left eye remained precisely what it was at the beginning, being still 20/200 without glasses for the distance, while reading without glasses was impossible and the degree of the hypermetropia had not changed. Still under the influence of the atropine and still with the pupil dilated to the maximum, this eye was now treated separately; and in half an hour its vision had become normal both for the distance and the near-point, diamond type being read at six inches, all without glasses. According to the accepted theories, the ciliary muscle of this eye must not only have been completely paralyzed at the time, but must have been in a state of complete paralysis for a year. Yet the eye not only overcame four and a half diopters of hypermetropia, but added six diopters of accommodation, making a total of ten and a half. It remains for those who adhere to the accepted theories to say how such facts can be reconciled with them.

Equally, if not more remarkable, was the case of a



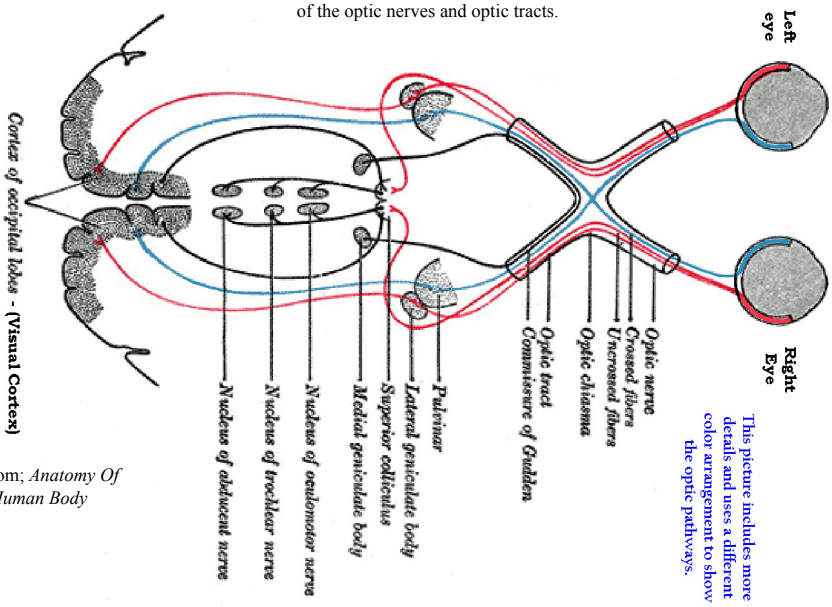
The left and right optic nerves and the optic tracts.

Picture from; *Anatomy Of The Human Body*

little girl of six who had two and a half diopters of hypermetropia in her right or better eye, and six in the other, with one diopter of astigmatism. With the better eye under the influence of atropine and the pupil dilated to the maximum, both eyes were treated together for more than a year, and at the end of that time, the right being still under the influence of the atropine, both became able to read diamond type at six inches, the right doing it better, if anything, than the left. Thus, in spite of the atropine, the right eye not only overcame two and a half diopters of hypermetropia, but added six diopters of accommodation, making a total of eight and a half. In order to eliminate all possibility of latent hypermetropia in the left eye—which in the beginning had six diopters—the atropine was now used in this eye and discontinued in the other, the eye education being continued as before. Under the influence of the drug there was a slight return of the hypermetropia; but the vision quickly became normal again, and although the atropine was used daily for more than a year, the pupil being continually dilated to the maximum, it remained so, diamond type being read at six inches without glasses during the whole period. It is difficult for me to conceive how the ciliary muscle could have had anything to do with the ability of this patient to accommodate after atropine had been used in each eye separately for a year or more at a time.

According to the current theory, atropine paralyzes the ciliary muscle and thus, by preventing a change of curvature in the lens, prevents accommodation. When accommodation occurs, therefore, after the prolonged use of atropine, it is evident that it must be due to some factor or factors other than the lens and the ciliary muscle. The evidence of such cases against the accepted

Scheme showing central connections of the optic nerves and optic tracts.

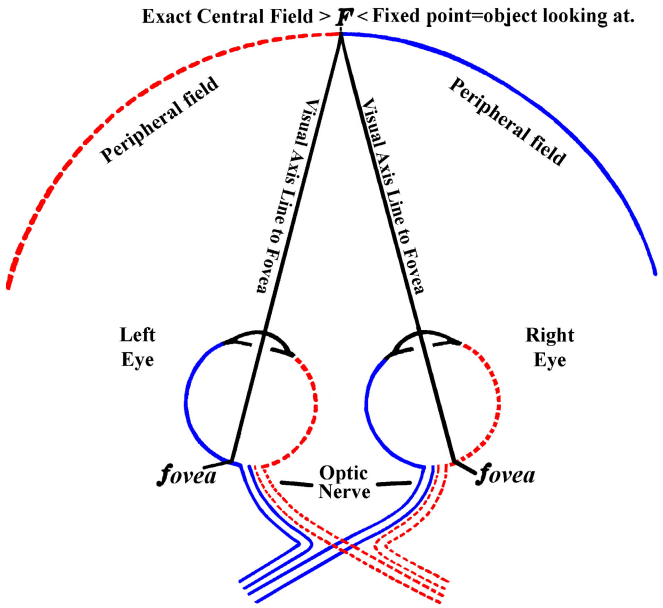


Picture from; *Anatomy Of The Human Body*

theories is, in fact, overwhelming; and according to these theories the other factors cited in this chapter are equally inexplicable. All of these facts, however, are in entire accord with the results of my experiments on the eye muscles of animals and my observations regarding the behavior of images reflected from various parts of the eyeball. They strikingly confirm, too, the testimony of the experiments with atropine, which showed that the accommodation could not be paralyzed completely and permanently unless the atropine was injected deep into the orbit, so as to reach the oblique muscles, the real muscles of accommodation, while hypermetropia could not be prevented when the eyeball was stimulated with electricity without a similar use of atropine, resulting in the paralysis of the recti muscles.

As has already been noted, the fact that after the removal of the lens for cataract the eye often appears to accommodate just as well as it did before is well known. Many of these cases have come under my own observation. Such patients have not only read diamond type with only their distance glasses on, at thirteen and ten inches and at a less distance, but one man was able to read without any glass at all. In all these cases the retinoscope demonstrated that the apparent act of accommodation was real, being accomplished, not by the "interpretation of circles of diffusion," or by any of the other methods by which this inconvenient phenomenon is commonly explained, but by an accurate adjustment of the focus to the distances concerned.

The cure of presbyopia (see Chapter XX) must also be added to the clinical testimony against the accepted theory of accommodation. On the theory that the lens is a factor in accommodation such cures would be mani-



< The visual field with its fixed point (*F*-central field), visual axis lines, the eyes, foveas, optic nerves, optic tract;

The left and right eyes' visual fields are merged into one field. It contains one central field and one peripheral field. The peripheral field is around, near and away from the central field. (Central = *F*, the fixed '*fixation*' point. The clearest area of the visual field.)

The left and right eyes' fovea are aligned. The foveas' *exact central fields* are merged together into one *exact central field* (one fixation point *F*). The point is on the part of the object the eyes are looking directly at.

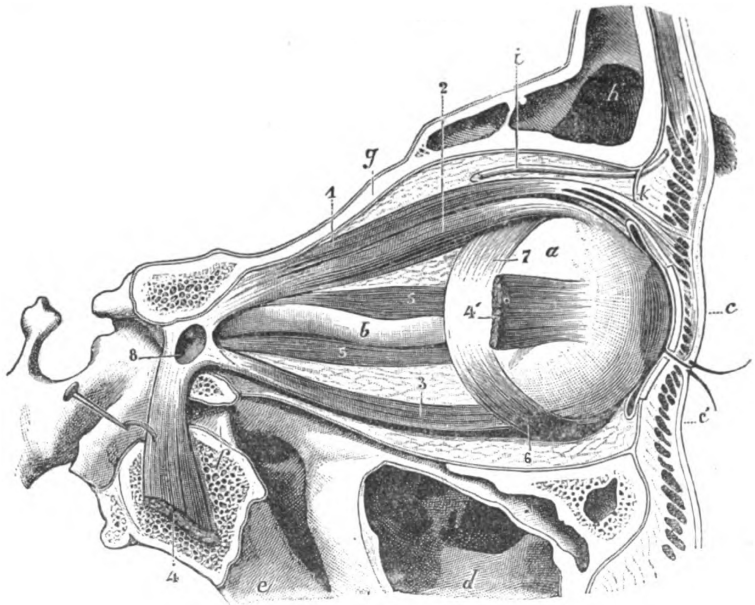
This is Central-Fixation.

The fixation point moves with the eyes from object to object. When it is on a object; it immediately moves '*shifts*' part to part on the object. It shifts on smaller, tiny parts of the part it is on.

Central-Fixation with Shifting.

festly impossible. The fact that rest of the eyes improves the sight in presbyopia has been noted by others, and has been attributed to the supposed fact that the rested ciliary muscle is able for a brief period to influence the hardened lens; but while it is conceivable that this might happen in the early stages of the condition and for a few moments, it is not conceivable that permanent relief should be obtained by this means, or that lenses which are, as the saying goes, as "hard as a stone," should be influenced, even momentarily.

A truth is strengthened by an accumulation of facts. A working hypothesis is proved not to be a truth if a single fact is not in harmony with it. The accepted theories of accommodation and of the cause of errors of refraction require that a multitude of facts shall be explained away. During more than thirty years of clinical experience, I have not observed a single fact that was not in harmony with the belief that the lens and the ciliary muscle have nothing to do with accommodation, and that the changes in the shape of the eyeball upon which errors of refraction depend are not permanent. My clinical observations have of themselves been sufficient to demonstrate this fact. They have also been sufficient to show how errors of refraction can be produced at will, and how they may be cured, temporarily in a few minutes, and permanently by continued treatment.



Ocular muscles viewed after removal of lateral wall of orbit (Testut): *a*, eyeball; *b*, optic nerve; *c*, *c'*, eyelids: *d*, maxillary sinus; *e*, pterygoid plate; *f*, foramen rotundum; *g*, roof of orbit; *h*, frontal sinus; *i*, supraorbital nerve; *k*, septum orbitale; 1, levator palpebræ superioris; 2, 3, superior and inferior recti; 4, 4', portions of the cut external rectus; 5, internal rectus; 6, inferior oblique; 7, insertion of superior oblique; 8, annular ligament or tendon of Zinn.

CHAPTER VII

THE VARIABILITY OF THE REFRACTION OF THE EYE

THE theory that errors of refraction are due to permanent deformations of the eyeball leads naturally to the conclusion, not only that errors of refraction are permanent states, but that normal refraction is also a continuous condition. As this theory is almost universally accepted as a fact, therefore, it is not surprising to find that the normal eye is generally regarded as a perfect machine which is always in good working order. No matter whether the object regarded is strange or familiar, whether the light is good or imperfect, whether the surroundings are pleasant or disagreeable, even under conditions of nerve strain or bodily disease, the normal eye is expected to have normal refraction and normal sight all the time. It is true that the facts do not harmonize with this view, but they are conveniently attributed to the perversity of the ciliary muscle, or if that explanation will not work, ignored altogether.

When we understand, however, how the shape of the eyeball is controlled by the external muscles, and how it responds instantaneously to their action, it is easy to see that no refractive state, whether it is normal or abnormal, can be permanent. This conclusion is confirmed by the retinoscope, and I had observed the facts long before the experiments described in the preceding chapters had offered a satisfactory explanation for it. During thirty years devoted to the study of refraction, I have found

few people who could maintain perfect sight for more than a few minutes at a time, even under the most favorable conditions; and often I have seen the refraction change half a dozen times or more in a second, the variations ranging all the way from twenty diopters of myopia to normal.

Similarly I have found no eyes with continuous or unchanging errors of refraction, all persons with errors of refraction having, at frequent intervals during the day and night, moments of normal vision, when their myopia, hypermetropia, or astigmatism, wholly disappears. The form of the error also changes, myopia even changing into hypermetropia, and one form of astigmatism into another.

Of twenty thousand school children examined in one year, more than half had normal eyes, with sight which was perfect at times; but not one of them had perfect sight in each eye at all times of the day. Their sight might be good in the morning and imperfect in the afternoon, or imperfect in the morning and perfect in the afternoon. Many children could read one Snellen test card with perfect sight, while unable to see a different one perfectly. Many could also read some letters of the alphabet perfectly, while unable to distinguish other letters of the same size under similar conditions. The degree of this imperfect sight varied within wide limits, from one-third to one-tenth, or less. Its duration was also variable. Under some conditions it might continue for only a few minutes, or less; under others it might prevent the subject from seeing the blackboard for days, weeks, or even longer. Frequently all the pupils in a classroom were affected to this extent.

Among babies a similar condition was noted. Most

investigators have found babies hypermetropic. A few have found them myopic. My own observations indicate that the refraction of infants is continually changing. One child was examined under atropine on four successsive days, beginning two hours after birth. A three per cent solution of atropine was instilled into both eyes, the pupil was dilated to the maximum, and other physiological symptoms of the use of atropine were noted. The first examination showed a condition of mixed astigmatism. On the second day there was compound hypermetropic astigmatism, and on the third compound myopic astigmatism. On the fourth one eye was normal and the other showed simple myopia. Similar variations were noted in many other cases.

What is true of children and infants is equally true of adults of all ages. Persons over seventy years of age have suffered losses of vision of variable degree and intensity, and in such cases the retinoscope always indicated an error of refraction. A man eighty years old, with normal eyes and ordinarily normal sight, had periods of imperfect sight which would last from a few minutes to half an hour or longer. Retinoscopy at such times always indicated myopia of four diopters or more.

During sleep the refractive condition of the eye is rarely, if ever, normal. Persons whose refraction is normal when they are awake will produce myopia, hypermetropia and astigmatism when they are asleep, or, if they have errors of refraction when they are awake, they will be increased during sleep. This is why people waken in the morning with eyes more tired than at any other time, or even with severe headaches. When the subject is under ether or chloroform, or unconscious from any other cause, errors of refraction are also produced or increased.

When the eye regards an unfamiliar object an error of refraction is always produced. Hence the proverbial fatigue caused by viewing pictures, or other objects, in a museum. Children with normal eyes who can read perfectly small letters a quarter of an inch high at ten feet always have trouble in reading strange writing on the blackboard, athough the letters may be two inches high. A strange map, or any map, has the same effect. I have never seen a child, or a teacher, who could look at a map at the distance without becoming nearsighted. German type has been accused of being responsible for much of the poor sight once supposed to be peculiarly a German malady; but if a German child attempts to read Roman print, it will at once become temporarily hypermetropic. German print, or Greek or Chinese characters, will have the same effect on a child, or other person, accustomed to Roman letters. Cohn repudiated the idea that German lettering was trying to the eyes.[1] On the contrary, he always found it "pleasant, after a long reading of the monotonous Roman print, to return 'to our beloved German.'" Because the German characters were more familiar to him than any others he found them restful to his eyes. "Use," as he truly observed, "has much to do with the matter." Children learning to read, write, draw, or sew, always suffer from defective vision, because of the unfamiliarity of the lines or objects with which they are working.

A sudden exposure to strong light, or rapid or sudden changes of light, are likely to produce imperfect sight in the normal eye, continuing in some cases for weeks and months (see Chapter XVII).

[1] Eyes and School Books, Pop. Sci. Monthly, May, 1881, translated from Deutsche Rundschau.

Glasses Retard Progress

By E. T. Fisher, M.S.M.D.

THIS patient, a man aged 53, had worn glasses thirteen years for astigmatism. Four years ago his vision became decidedly worse and had been steadily decreasing. Though his glasses had been changed repeatedly by competent ophthalmologists, his vision for distance was not improved to any appreciable degree.

His vision with glasses was 10/70 and the letters were gray and blurred. The diamond type appeared very indistinct, but he was able to read a few words in a very bright light.

Without glasses his vision was 10/200 with both eyes and with each eye separately. The diamond type seemed to be a solid gray blur. The smallest letters that he could read were those of the 30 line and he could distinguish them only when the card was held one foot from his eyes.

First I explained about blinking. I had not seen him blink once since he entered the office. As a child he was taught never to blink while conversing with anyone because it was very impolite, so he had always prevented, as much as possible, any movement of the eyelids. In this way he had acquired the habit of staring. Blinking seemed to require a great effort, but by closing his eyes for a few minutes at a time and then by gradually shortening this period he was soon able to blink easily.

His imagination and memory were very poor, but he could remember the ocean perfectly. When a child he had spent many summers at the seashore and had often sat for hours watching the waves. So I suggested that while palming he imagine himself sitting on a shore watching the waves as he had done in his childhood.

After palming 30 minutes in this way I asked him to glance at the test card and then close his eyes immediately. He saw the R in 10/100 but it disappeared before he could close his eyes.

I then held the card where he was able to see the O

Noise is also a frequent cause of defective vision in the normal eye. All persons see imperfectly when they hear an unexpected loud noise. Familiar sounds do not lower the vision, but unfamiliar ones always do. Country children from quiet schools may suffer from defective vision for a long time after moving to a noisy city. In school they cannot do well with their work, because their sight is impaired. It is, of course, a gross injustice for teachers and others to scold, punish, or humiliate such children.

Under conditions of mental or physical discomfort, such as pain, cough, fever, discomfort from heat or cold, depression, anger, or anxiety, errors of refraction are always produced in the normal eye, or increased in the eye in which they already exist.

The variability of the refraction of the eye is responsible for many otherwise unaccountable accidents. When people are struck down in the street by automobiles, or trolley cars, it is often due to the fact that they were suffering from temporary loss of sight. Collisions on railroads or at sea, disasters in military operations, aviation accidents, etc., often occur because some responsible person suffered temporary loss of sight.

To this cause must also be ascribed, in a large degree, the confusion which every student of the subject has noted in the statistics which have been collected regarding the occurrence of errors of refraction. So far as I am aware it has never been taken into account by any investigator of the subject; yet the result in any such investigation must be largely determined by the conditions under which it is made. It is possible to take the best eyes in the world and test them so that the subject will not be able to get into the Army. Again, the test

in the 50 line, but he could not remember it. I suggested that he imagine the O floating out into the ocean, becoming gradually smaller and smaller. After looking at the O again, he closed his eyes and imagined that it was floating away. Then he looked at the test card which was ten feet away and read both letters in the 100 line and they appeared much blacker.

The diamond type now appeared as white and black lines instead of the solid gray.

Four days later I saw him again. His vision had not improved. Before I had an opportunity to question him he said: "I know why I have not improved more. It is because I have worn my glasses about an hour a day. Each time after wearing them my sight is just as bad as it was the first time I took them off four days ago."

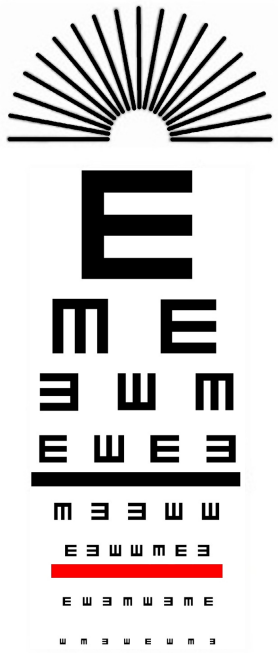
I had very carefully explained about not wearing his glasses, but he thought I had attributed undue importance to this phase, therefore he had not mentioned that it was absolutely necessary for him to wear them about an hour a day. As the glasses affected his vision so unfavorably and caused the loss of all that he had previously gained, it seemed doubtful that he would ever improve to any great extent as long as he continued to wear them. On days when he did not use glasses, as Sundays and holidays, his improvement was more marked and then, after wearing them, he did not lose quite all he had previously gained; but in this way his progress was exceedingly slow.

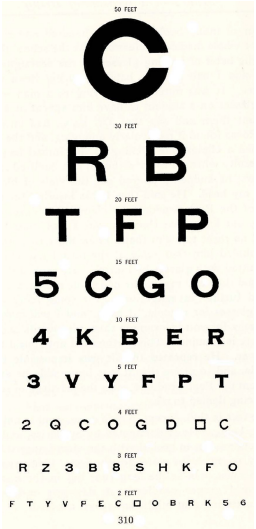
He practiced about three hours a day, with the diamond type, palming and sitting in the sun with his eyelids closed. In practicing with the diamond type he derived the most benefit from sitting in the sun and slowly moving the card from side to side, glancing at it casually from time to time and closing his eyes frequently.

In this way he first became able to see the white spaces between the lines very white, then the spaces between the words and finally, in flashes, he could distinguish words.

His progress was, without doubt, greatly retarded by his use of glasses, but now, after ten months, he is able to read the diamond type in the sun, and 10/30 on the test card. He is seeing objects at a distance that he had not seen for four years even with his glasses.

may be so made that eyes which are apparently much below normal at the beginning, may in the few minutes required for the test, acquire normal vision and become able to read the test card perfectly.





Get an eye exam from a Natural Eyesight Improvement Ophthalmologist, Optometrist that performs exams WITHOUT use of; e*ye drops, drugs, machines producing artificial close, middle and far distances, artificial light and limiting eye, head, body movement. Artificial and low light in the exam room and time limits for reading eyecharts-forcing the person to hurry, try hard to see the letters*. All of this causes blurry vision. Nervousness, tension impairs the eyes' movement causing unclear vision during the exam resulting in a unnecessary eyeglass prescription. A natural eye-vision exam from a honest eye doctor is healthy for the eyes and will result in a accurate prescription, not over prescribed, not strong. Often; prescriptions, eyeglasses are not needed.

Picture; Old-fashioned honest Bates Method eye doctor testing the boy's eyesight naturally with a real paper eyechart hung on the wall. Full Spectrum Sunlight is shining through an open window into the office onto the chart. Eyesight is tested when the mind, eyes are relaxed, no pressure to hurry when reading the chart. The boy is allowed to stand, walk around, move the body, head and eyes. Shifting, centralizing, memory, imagination... are taught. This is the best way to test for the true level of visual clarity, along with the old time retinoscope and other harmless instruments to look into, inspect the eyes. Chances of passing the eye test, avoiding addictive eyeglasses that lead to advanced eye, vision impairment is greatly improved.

The best type of eyechart contains easy to read-memorize sentences and entertaining pictures.

Some Optician Stores in shopping malls provide a old fashioned paper eyechart on the wall at 20 feet for a far vision test and a small letters paper chart at close distances for reading vision tests. A honest doctor will not prescribe glasses. If the patient is addicted to glasses and needs them to drive, work safely; the doctor will prescribe weaker and weaker eyeglass lenses (20/40-20-50) to wear only when needed. The doctor teaches the Bates Method, the patient reverses the eyesight back to perfect clarity and permanently stops use of eyeglasses.

Eye drops are toxic, temporarily paralyze the eye muscles, parts of the eye. Avoid eye drops! New instruments that can thoroughly see inside the eye without using eye drops need to be created. Are they already available? Are profits from the sale of eye drops to doctors preventing use of the instruments? Or, are eye doctors using drops because they know eye drops will impair the eyes' health, the vision and increase sale of eyeglasses, surgery?

CHAPTER VIII

WHAT GLASSES DO TO US

THE Florentines were doubtless mistaken in supposing that their fellow citizen (see page v) was the inventor of the lenses now so commonly worn to correct errors of refraction. There has been much discussion as to the origin of these devices, but they are generally believed to have been known at a period much earlier than that of Salvino degli Armati. The Romans at least must have known something of the art of supplementing the powers of the eye, for Pliny tells us that Nero used to watch the games in the Colosseum through a concave gem set in a ring for that purpose. If, however, his contemporaries believed that Salvino of the Armati was the first to produce these aids to vision, they might well pray for the pardon of his sins; for while it is true that eyeglasses have brought to some people improved vision and relief from pain and discomfort, they have been to others simply an added torture, they always do more or less harm, and at their best they never improve the vision to normal.

That glasses cannot improve the sight to normal can be very simply demonstrated by looking at any color through a strong convex or concave glass. It will be noted that the color is always less intense than when seen with the naked eye; and since the perception of form depends upon the perception of color, it follows that both color and form must be less distinctly seen with glasses than without them. Even plane glass lowers the vision both for color and form, as everyone knows who has ever looked out of a window. Women who wear glasses for minor defects of vision often observe

The Natural Eyesight Improvement student must get an eye exam to check the health of the eyes. It is best obtained from an eye doctor experienced with the Bates Method. Looking into a machine, mechanical or electronic device to test the clarity of vision blocks many natural eye-vision-brain functions, can cause temporary; increased visual blur, a stiff neck, block relaxed normal eye movement *shifting*, block relaxation of the mind. The machines emit a unhealthy artificial light that lowers the vision during the exam. All these unnatural things result in a unnecessary eyeglass prescription or a prescription that is too strong. On top of that, most eye doctors create a prescription that is *extra strong*; more than 20/20 clarity through the eyeglass. This will maintain, increase vision impairment and interfere with application of Natural Eyesight Improvement, prevent the mind and eyes from relaxing and returning to normal function, clear vision. Cataracts, retina... problems develop. I do not trust the new 'Eye Scan' Machines; Artificial light and..? into the eyes, directly on the retina... (Some machines are safe, effective for testing the health-function of the eyes, vision but others have side effects.)

An old fashioned paper eyechart hung on a wall with sunlight on the chart, no glare, used when the eyes and mind are relaxed, no pressure, doctor allows enough time to read the chart is the best way to test for the true level of visual clarity. Dr. Bates retinoscope and other harmless scopes, instruments reveal the condition of the entire retina, lens, eye. Natural Bates Method eye doctors will do this.

Eye drops are used to widen the eye's pupil so the doctor can look into the eyes and completely check the eyes' health. This may be necessary to insure a though eye exam but constant use of eye drops on every exam can impair the eyes' health. The eye drops cause a paralyzed eye (ciliary) muscle, widened pupil, blurred vision, light sensitivity. Other muscles, areas of the eye can be affected. I personally will not allow eye drops when taking an eye exam. The drug companies are placing harmful and unnecessary chemicals, toxins in the eye drops, various drugs for the eyes, tear production drugs and drugs for other medical conditions. This causes eye, vision, health impairment. Toxins, chemicals are placed in vaccines, flu shots, even our food, water supply. Contact lens solutions have been contaminated with bacteria, parasites resulting in eye infections, blindness, loss of eye. Chemicals in sinus, nasal sprays cause glaucoma, cataracts, color blindness, vision impairment. Modern natural eye doctor's are seeking a safe alternative to eye drops, drugs.

that they are made more or less color-blind by them, and in a shop one may note that they remove them when they want to match samples. If the sight is seriously defective, the color may be seen better with glasses than without them.

That glasses must injure the eye is evident from the facts given in the preceding chapter. One cannot see through them unless one produces the degree of refractive error which they are designed to correct. But refractive errors, in the eye which is left to itself, are never constant. If one secures good vision by the aid of concave, or convex, or astigmatic lenses, therefore, it means that one is maintaining constantly a degree of refractive error which otherwise would not be maintained constantly. It is only to be expected that this should make the condition worse, and it is a matter of common experience that it does. After people once begin to wear glasses their strength, in most cases, has to be steadily increased in order to maintain the degree of visual acuity secured by the aid of the first pair. Persons with presbyopia who put on glasses because they cannot read fine print too often find that after they have worn them for a time they cannot, without their aid, read the larger print that was perfectly plain to them before. A person with myopia of 20/70 who puts on glasses giving him a vision of 20/20 may find that in a week's time his unaided vision has declined to 20/200, and we have the testimony of Dr. Sidler-Huguenin, of Zurich,[1] that of the thousands of myopes treated by him the majority grew steadily worse, in spite of all the skill he could apply to the fitting of glasses for them. When people break their glasses and go without them for a week or two, they

[1] Archiv. f. Augenh., vol. lxxix, 1915, translated in Arch. Ophth., vol. xlv, Nov. 6, 1916.

Eyeglasses cause strain, tension and increase visual blur.

Read Fine and Microscopic print *Without Eyeglasses*. Read it daily in the sunlight with relaxation, the Bates Method. Shift on the letters. See the white glowing line under and above sentences, think something pleasant. Soon you will see it clear in dimmer light. This keeps the eyes healthy and eyesight clear for life. It prevents cataract. Also avoid contacts, sunglasses, tinted, colored and UV blocking lenses.

See page 326, 181, 144, 420.

frequently observe that their sight has improved. As a matter of fact the sight always improves, to a greater or less degree, when glasses are discarded, although the fact may not always be noted.

That the human eye resents glasses is a fact which no one would attempt to deny. Every oculist knows that patients have to "get used" to them, and that sometimes they never succeed in doing so. Patients with high degrees of myopia and hypermetropia have great difficulty in accustoming themselves to the full correction, and often are never able to do so. The strong concave glasses required by myopes of high degree make all objects seem much smaller than they really are, while convex glasses enlarge them. These are unpleasantnesses that cannot be overcome. Patients with high degrees of astigmatism suffer some very disagreeable sensations when they first put on glasses, for which reason they are warned by one of the "Conservation of Vision" leaflets published by the Council on Health and Public Instruction of the American Medical Association to "get used to them at home before venturing where a misstep might cause a serious accident."[1] Usually these difficulties are overcome, but often they are not, and it sometimes happens that those who get on fairly well with their glasses in the daytime never succeed in getting used to them at night.

All glasses contract the field of vision to a greater or less degree. Even with very weak glasses patients are unable to see distinctly unless they look through the center of the lenses, with the frames at right angles to the line of vision; and not only is their vision lowered if they fail to do this, but annoying nervous symptoms,

[1] Lancaster: Wearing Glasses, p. 15.

Dr. Bates prefers his patients to STOP WEARING EYEGLASSES. This prevents impairment of the vision and eyes' health.

For patients who cannot see without glasses; Bates Method teachers state that only reduced *weaker and weaker* eyeglass lenses, 'usually 20/40 clarity' (no contacts) can be used. And, they are temporary, used only when *absolutely necessary* for driving, safety at work... as the vision is improving with practice of the Bates Method. Example; a person with -3.00 eyeglasses for myopia might reduce to -2.50 or -2.00. The eyechart will show 20/40 clarity with the glasses on. Avoid glasses as much as possible. Keep practicing the Bates Method. Continue to reduce the lenses until seeing clear without glasses. A person with +3.00 eyeglasses for presbyopia, farsight might reduce to +2.50 or +2.00 and continue to reduce. If the eyeglasses have uneven lens strength for the left and right eyes; get the lens strength equal, the same number. See the eyeglasses webpage; http://cleareyesight-batesmethod.info/id36.html

If the Eyeglasses have Uneven Prescription Strength in the Left and Right Eyeglass Lenses - *How to Reduce* ;

To improve vision easy, faster; Change the eyeglass lenses to equal strength. Do NOT use the stronger lens from the less clear vision eye's eyeglass lens because it will impair-lower the vision in the best-clearest vision eye. Use the *weakest eyeglass lens* from the best *clearest vision* eye and place it in both left and right eyeglass lens' frame. Then; reduce (weaken) both the left and right lenses strength equally. Ask your eye doctor for the number; maybe reduce 0.50 or 1.00 diopter. + or - depending on the prescription. Some people reduce more; 2.00... The clearest vision eye will see 20/40 clarity through it's reduced eyeglass lens. (20 feet, number 40 eyechart line.) Smaller letters-lines below 20/40 will be unclear. The less clear vision eye has the same strength eyeglass lens, but it must improve it's vision to see 20/40 through it's lens, see equal-as clear as the clearest vision eye sees through the glasses.

The clearest vision eye will also be improving as you practice Natural Eyesight; so do some extra Bates Method practice (shifting, switching...) with the less clear eye, *without glasses*. The goal is to get the clarity of vision improved and equal in the left and right eyes when not wearing glasses. Then, when the eyeglasses with the reduced, equal strength left and right lenses are worn; the two eyes will see at a equal level through the eyeglass lenses. If the lenses are too weak or too strong; vision through the eyeglasses will be *too blurry* and will cause strain, effort to see, headache. Find a balance where the glasses are weaker, not 20/20 clarity 'so they enable some relaxation and room for vision to improve' and are comfortable to see through. (See reduction example-pictures on pg. 86)

(More eyeglass information continued on bottom of next page)

such as dizziness and headache, are sometimes produced. Therefore they are unable to turn their eyes freely in different directions. It is true that glasses are now ground in such a way that it is theoretically possible to look through them at any angle, but practically they seldom accomplish the desired result.

The difficulty of keeping the glass clear is one of the minor discomforts of glasses, but nevertheless a most annoying one. On damp and rainy days the atmosphere clouds them. On hot days the perspiration from the body may have a similar effect. On cold days they are often clouded by the moisture of the breath. Every day they are so subject to contamination by dust and moisture and the touch of the fingers incident to unavoidable handling that it is seldom they afford an absolutely unobstructed view of the objects regarded.

Reflections of strong light from eyeglasses are often very annoying, and in the street may be very dangerous.

Soldiers, sailors, athletes, workmen and children have great difficulty with glasses because of the activity of their lives, which not only leads to the breaking of the lenses, but often throws them out of focus, particularly in the case of eyeglasses worn for astigmatism.

The fact that glasses are very disfiguring may seem a matter unworthy of consideration in a medical publication; but mental discomfort does not improve either the general health or the vision, and while we have gone so far toward making a virtue of what we conceive to be necessity that some of us have actually come to consider glasses becoming, huge round lenses in ugly tortoise-shell frames being positively fashionable at the present time, there are still some unperverted minds to which the wearing of glasses is mental torture and the sight of them upon others far from agreeable. Most human

Uneven strength left and right eyeglass lenses and uneven vision cause imbalance, tension in the visual system, brain, eyes, retina, eye muscles, causes blur, strabismus, astigmatism and slows vision improvement. Correcting this and removing bifocal, multi-section, astigmatism, prism, UV blocking, tinting, coating... from the eyeglass lenses enables easy, faster vision improvement. It helps reverse addiction to glasses and is less harmful to the eyes' health than glasses with multiple and strong prescriptions are. No eyeglasses is the healthiest option. Glasses, level of clarity with and without glasses must be legal, safe for driving, work...

If you cannot get the left and right eyeglass lens strength equal; it's still important to reduce the strength of each lens. Getting the lenses equal and reduced is the best option, but some people have a large difference in the left and right eyes' clarity and state that equal eyeglass lenses feel uncomfortable, at first, so they prefer to reduce only. An option is to buy 2 pair of glasses; the *reduced only* and the *equal and reduced*. Then; work your way into the equal and reduced as the vision improves.

When buying; reduce the strength of the equal and reduced glasses a bit more to fit improvement in the vision. All glasses need more reduction as the eyesight improves and the lenses become too strong. Before glasses give 20/20; its time to reduce again.

No bifocal! If you need glasses for far and close vision; buy two pair of eyeglasses; one equal-reduced for far. One equal-reduced for close. Wear them around your neck on a string. One higher to prevent scratching. Use glasses as little as possible. **See pg. 86.**

The P.D., centering and height of the left and right eyeglass lenses, exact fit of the frames, handles... must be placed in the prescription. Here's an optician that teaches about the P.D., height and other eyeglass settings that some on-line opticians don't tell you; https://www.youtube.com/watch?v=7Hc81FJTMaw&list=UURZDLUHjkNwkm-4QMrqyTNA

***Choose a doctor, optician carefully*. P.D., eyeglass lens, frames measurement; http://cleareyesight-batesmethod.info/id36.html**

Most people can function without glasses when the vision is clear at 20/70 to 20/50. Some at 20/100 or more unclear do not wear glasses. They experience a removal of tension when using their natural vision without glasses. NO glasses = the eyesight improves faster and advanced eye health problems heal easier, reversal back to a normal healthy state is completely enabled. (Always stay legal, safe for driving, work, hobbies...) Eyeglasses are permanently removed as soon as possible. It is best to stop use of eyeglasses immediately. If the prescription is strong, the eyes contain cataract, detached retina, any retina or optic nerve problem, glaucoma, conical cornea, cornea ulcers, potential for these or any eye health problem; STOP WEARING EYEGLASSES! Eyeglasses and contact lenses, prisms cause and increase the eye-vision problems listed above, including; torn-leaking blood vessels and capillaries in the eye and retina, detached vitreous, astigmatism, strabismus, sensitivity to light, neck tension and most all eye health-vision problems. (Strong prescriptions greatly increase these eye-vision problems.) Eyeglasses can interfere with healing of an eye injury.

beings are, unfortunately, ugly enough without putting glasses upon them, and to disfigure any of the really beautiful faces that we have with such contrivances is surely as bad as putting an import tax upon art. As for putting glasses upon a child it is enough to make the angels weep.

Up to a generation ago glasses were used only as an aid to defective sight, but they are now prescribed for large numbers of persons who can see as well or better without them. As explained in Chapter I, the hypermetropic eye is believed to be capable of correcting its own difficulties to some extent by altering the curvature of the lens, through the activity of the ciliary muscle. The eye with simple myopia is not credited with this capacity, because an increase in the convexity of the lens, which is supposed to be all that is accomplished by accommodative effort, would only increase the difficulty; but myopia is usually accompanied by astigmatism, and this, it is believed, can be overcome, in part, by alterations in the curvature of the lens. Thus we are led by the theory to the conclusion that an eye in which any error of refraction exists is practically never free, while open, from abnormal accommodative efforts. In other words, it is assumed that the supposed muscle of accommodation has to bear, not only the normal burden of changing the focus of the eye for vision at different distances, but the additional burden of compensating for refractive errors. Such adjustments, if they actually took place, would naturally impose a severe strain upon the nervous system, and it is to relieve this strain—which is believed to be the cause of a host of functional nervous troubles—quite as much as to improve the sight, that glasses are prescribed.

It has been demonstrated, however, that the lens is not

Example of the Destruction and Misery Eyeglasses Cause and the Courage of a Man Enduring Blindness

A man who wore strong glasses for many years beginning in his youth started to see flashing blue lights. He told his eye doctor. The eye doctor increased the eyeglass strength, prescribed the strongest glasses the man ever wore in his life. Within 2 weeks he saw more blue lights, had a bout of temporary blindness. The doctor told him to keep wearing the glasses. Then more blue and other colored light, a strange dark/purple like shade appeared. This was followed by blindness. A blood vessel burst in his retina, glaucoma came back and black cataract in both eyes. Doctor stated the optic nerve is completely damaged. Eye surgery was performed on the broken retina blood vessel. It did not bring the vision back. (Nothing was said, done about a old implanted tube that is causing many injuries in, around the eye.)

Would all of this have happened if the man refused to wear the glasses? (Eyeglasses cause and increase outer and inner eye muscle tension. The tense-tight muscles press on the eye, lens causing pressure, tension, pulling, stretching on and inside the eye, retina and lens. This also alters the eyes' shape. Unclear vision, eye damage occurs.) In the past the man limited use of glasses for two years and stopped glasses 100% for one year and used the Bates Method. He cured cataract in both eyes and 80% of the glaucoma. Myopia was reversing.

Then he had a lot of stress in his life, lost his wife and house. He moved into a apartment, lived alone. The stress lowered his vision. *Dr. Bates states that stress-strain, unhappy emotions can cause unclear vision. The vision returns to perfect clarity if glasses are avoided and relaxation of the mind is restored.* Unfortunately the man followed his eye doctor's advice and went back to glasses after he thought the Bates Method was taking too long to get to 100% clear vision. This is when the trouble started, strong glasses prescribed which lead to the blindness. He is now staying away from glasses *forever* and is working on restoring his eyesight naturally. He avoided surgery for the cataracts because many of his eye problems occurred years ago due to eye surgery 'the tube placed in his eye', so he's reluctant to trust doctors, its hard to find a good one. Update Aug., 2015; He recently went to a new eye doctor (ophthalmologist) to ask him to remove the tube the previous doctor placed in the eye trying to drain eye fluids. The tube caused a large tumor, scar tissue, debris around the eye, in the eye socket and other problems. It did not help treat the glaucoma. The tube greatly impaired the eyes' movement. The new doctor said the tube should have never been placed in the eye, it was impairing many of the eyes' functions. The honest eye doctor successfully removed the tube and tumors... In about one day the eyes' movement *shifting* improved for the first time in years! The blind man is allowed cataract surgery if he begins to see light. The doctor says the law allows him to perform surgery only if there is evidence it will restore the eyesight. The black cataracts are blocking the light. The man is using the Bates Method to reverse the cataracts. If allowed, he might get the surgery so he can quickly obtain light, enjoy eyesight in his senior years. Years of low vision, glasses, blindness impaired his memory of objects, the brain's *mental pictures*. Memory is a main function necessary for clear eyesight. The blind man says he used Dr. Bates directions for shifting on/swinging a small black period and other Bates practices to prevent pain. He did not need to use the pain medicine given him.

The man has a strong religious faith, is close to God. His spirit, mind and heart persevere so he may be cured and help others.

a factor, either in the production of accommodation, or in the correction of errors of refraction. Therefore under no circumstances can there be a strain of the ciliary muscle to be relieved. It has also been demonstrated that when the vision is normal no error of refraction is present, and the extrinsic muscles of the eyeball are at rest. Therefore there can be no strain of the extrinsic muscles to be relieved in these cases. When a strain of these muscles does exist, glasses may correct its effects upon the refraction, but the strain itself they cannot relieve. On the contrary, as has been shown, they must make it worse. Nevertheless persons with normal vision who wear glasses for the relief of a supposed muscular strain are often benefited by them. This is a striking illustration of the effect of mental suggestion, and plane glass, if it could inspire the same faith, would produce the same result. In fact, many patients have told me that they had been relieved of various discomforts by glasses which I found to be simply plane glass. One of these patients was an optician who had fitted the glasses himself and was under no illusions whatever about them; yet he assured me that when he didn't wear them he got headaches.

Some patients are so responsive to mental suggestion that you can relieve their discomfort, or improve their sight, with almost any glasses you like to put on them. I have seen people with hypermetropia wearing myopic glasses with a great deal of comfort, and people with no astigmatism getting much satisfaction from glasses designed for the correction of this defect.

Landolt mentions the case of a patient who had for years worn prisms for insufficiency of the internal recti, and who found them absolutely indispensable for work, although the apices were toward the nose. The prescrip-

The two pictures below are examples showing how to equalize and reduce a myopia, - minus *far vision* eyeglass prescription. Contact an eye doctor to obtain *your* exact prescription.

Myopia glasses are permanently removed when far objects can be seen comfortably without glasses.

For the +Add section; No bifocal! Bifocals quickly impair the vision.

If you need close vision reading glasses; buy a separate pair of glasses for the +Add, plus prescription.

Equalize the left and right eyes' eyeglass strength, and reduce it.

In the picture below the +Add prescription has; +2.50 right eye, +2.00 left eye reading glasses. The patient might try reducing to +1.50 for both left and right eyeglass lens. Or weaker; +1.00 both lens.

This is placed in a separate pair of glasses so it is NOT bifocal, is not mixed in with the myopia, - minus *far vision* eyeglasses, prescription.

The patient continues to reduce the eyeglass strength weaker and weaker as he/she practices the Bates Method.

The reading glasses are permanently removed when the close print can be seen comfortably without glasses.

If the patient has farsight; another separate pair of glasses is used, solely for the farsight prescription. It's left and right lenses are also equalized and continually reduced to a weaker and weaker strength.

Reading fine print *without glasses, (*even when it is blurry) is healthy, it speeds improvement of close reading vision, middle and far vision.

Imbalanced, Unhealthy Eyeglass Prescription

For +Add; buy a separate pair of glasses for close vision. No bifocal. *Equalize and reduce it.*

Left eye has clearest vision, weakest eyeglass lens prescription for close vision.

	Sphere	Astigmatism Cylinder	Astigmatism Axis	Horizontal Prism	Vertical Prism	Add	Far PD	Near PD
Right Eye >	-2.75	-3.00	80			+2.50	61	58
Left Eye >	-3.00	-3.00	90			+2.00		

Right eye has clearest vision, weakest eyeglass lens prescription for far vision.

- SPHERE = the eyeglass strength, far vision-myopia prescription.

CYLINDER; strength of Astigmatism prescription.

AXIS = area in eye astigmatism is at, its angle.

AVOID astigmatism prescriptions!

PRISM = for crossed, wandering eyes... AVOID this!

ADD = is for bifocal; close vision, PLUS + prescription. Avoid This!

PD = the exact placement of the center of the eyeglass lens in front center of the left and right eyes pupils. And the height-level of the lens in front of the pupils. The PD changes for far and close vision as the eyes-pupils diverge-move out straight for far vision and converge-move inward toward eachother for close and reading vision.

Balanced, Reduced Prescription

Balanced Eyeglass Prescription; Left and right eyeglass lenses are equal strength and reduced. No Astigmatism, No bifocal, No Prism, No tinting...

	Sphere	Astigmatism Cylinder	Astigmatism Axis	Horizontal Prism	Vertical Prism	Add	Far PD	Near PD
Right Eye >	-2.00						61	58
Left Eye >	-2.00							

- SPHERE = the eyeglass strength, far vision-myopia prescription.

CYLINDER; strength of Astigmatism prescription.

AXIS = area in eye astigmatism is at, its angle.

AVOID astigmatism prescriptions!

PRISM = for crossed, wandering eyes... AVOID this!

ADD = is for bifocal; close vision, PLUS + prescription. Avoid This!

PD = the exact placement of the center of the eyeglass lens in front center of the left and right eyes pupils. And the height-level of the lens in front of the pupils. The PD changes for far and close vision as the eyes-pupils diverge-move out straight for far vision and converge-move inward toward eachother for close and reading vision.

Note; Near PD is not needed in the reduced Myopia -Minus lense eyeglass prescription.

It is placed here so the patient and Optician have access to the near PD if near (close) vision reduced glasses are also needed. Get a separate pair of glasses for near vision. *No bifocal!*

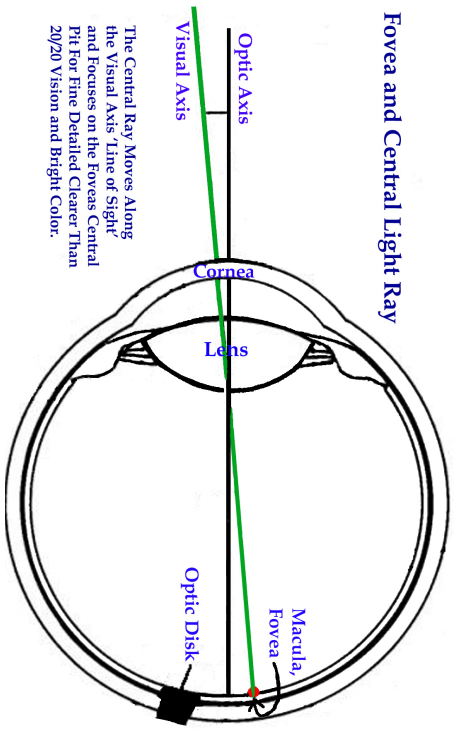
Some people with advanced Myopia state they need a 2nd myopia -minus lense eyeglass prescription that is more reduced/weaker for certain distances. Ask the eye doctor/ optician for help and get the correct PD for that 2nd reduced myopia -minus glasses/distance. *No bifocal!*

tion, which the patient was able to produce, called for prisms adjusted in the usual manner, with the apices toward the temples; but the optician had made a mistake which, owing to the patient's satisfaction with the result, had never been discovered. Landolt explained the case by "the slight effect of weak prisms and the great power of imagination";[1] and doubtless the benefit derived from the glasses was real, resulting from the patient's great faith in the specialist—described as "one of the most competent of ophthalmologists"—who prescribed them.

Some patients will even imagine that they see better with glasses that markedly lower the vision. A number of years ago a patient for whom I had prescribed glasses consulted an ophthalmologist whose reputation was much greater than my own, and who gave him another pair of glasses and spoke slightingly of the ones that I had prescribed. The patient returned to me and told me how much better he could see with the second pair of glasses than he did with the first. I tested his vision with the new glasses, and found that while mine had given him a vision of 20/20 those of my colleague enabled him to see only 20/40. The simple fact was that he had been hypnotized by a great reputation into thinking he could see better when he actually saw worse; and it was hard to convince him that he was wrong, although he had to admit that when he looked at the test card he could see only half as much with the new glasses as with the old ones.

When glasses do not relieve headaches and other nervous symptoms it is assumed to be because they were not properly fitted, and some practitioners and their patients exhibit an astounding degree of patience and

[1] Anomalies of the Motor Apparatus of the Eye, System of Diseases of the Eye, vol. iv, pp. 154-155.



Pinhole Glasses interfere with the visual axis, optic axis and other lines of sight... entering and inside the eye.

Avoid Pinhole Glasses (black or other color plastic... eyewear with many tiny holes in them). Avoid teachers that sell them without warning about the side effects, without teaching healthy alternatives. Pinhole glasses block many natural *eye-vision-brain* functions. They impair shifting, central-fixation, convergence, divergence, lens movement and relaxation of the mind and eyes. They cause headaches, dizziness, impair the vision and eyes' health. They block *natural* vision improvement. The smaller the holes in the glasses are, the more they impair the visual system's function. The black areas constantly move over-block the eyes' fovea-macula; the central field, the main area of the retina that produces clear eyesight. A constant flickering effect occurs impairing function of the retina, the brain with the retina and the eyes, eye muscles. Pinholes act as dark sunglasses; imbalance-disrupt light rays, energy entering the eyes and prevent natural refraction of the light.

See the website; http://cleareyesight-batesmethod.info/id114.html
Video; https://www.youtube.com/watch?v=v_UNv_z4YjM

Side effects of the many holes pinhole glasses are; trying to coordinate both eyes' macula-fovea though the holes, and moving across 'trying to avoid' the solid black areas around the holes. Eye movement becomes tense. Often one eye's macula-fovea is blocked causing use of only one eye's central field. This impairs normal, relaxed eye movements, disrupts central-fixation, the central light ray and visual axis, coordination of the left and right eyes. Head-eye pain, dizziness... occurs. All pinhole glasses, pinhole devices also block many areas of the peripheral field. Objects appear smaller.

Variations of pinhole glasses can be used temporarily, occasionally to avoid; the side affects of the many holes pinhole glasses, addiction to eyeglass prescriptions and eyeglasses causing reversal of your Natural Vision Improvement process. (See next page.)

perseverance in their joint attempts to arrive at the proper prescription. A patient who suffered from severe pains at the base of his brain was fitted sixty times by one specialist alone, and had besides visited many other eye and nerve specialists in this country and in Europe. He was relieved of the pain in five minutes by the methods presented in this book, while his vision, at the same time, became temporarily normal.

It is fortunate that many people for whom glasses have been prescribed refuse to wear them, thus escaping not only much discomfort but much injury to their eyes. Others, having less independence of mind, or a larger share of the martyr's spirit, or having been more badly frightened by the oculists, submit to an amount of unnecessary torture which is scarcely conceivable. One such patient wore glasses for twenty-five years, although they did not prevent her from suffering continual misery and lowered her vision to such an extent that she had to look over the tops when she wanted to see anything at a distance. Her oculist assured her that she might expect the most serious consequences if she did not wear the glasses, and was very severe about her practice of looking over instead of through them.

As refractive abnormalities are continually changing, not only from day to day and from hour to hour, but from minute to minute, even under the influence of atropine, the accurate fitting of glasses is, of course, impossible. In some cases these fluctuations are so extreme, or the patient so unresponsive to mental suggestion, that no relief whatever is obtained from correcting lenses, which necessarily become under such circumstances an added discomfort. At their best it cannot be maintained that glasses are anything more than a very unsatisfactory substitute for normal vision.

A better way to obtain the pinhole effect is to make your own pinhole device; Use a paper with only <u>one pinhole</u>. Look through it with <u>one eye</u>. See picture below. Directions;

Use white paper. Be careful; do not touch the edges, corners of the paper to the eye. Paper cuts can injure the eye and cornea. Rip off the edges, corners of the paper so they are not sharp, not pointed. Seal over them with a smooth non-toxic substance if needed. Next; (Do NOT do this next step with the paper near the eye!) On the top of the paper, 1 inch down; push the end of a small paper clip through the paper to make a small to medium size hole. Then, 1-2 inches below; use a needle to make a tiny hole. The smaller hole gives a clearer image but blocks more eye, vision functions and blocks out more light. Make clean holes so there are no fuzzy paper parts covering the holes.

Look through the top-largest hole with one eye. Place the hole 1/2 to 1 inch in front of the eye's pupil. If it does not show a clear image; try the smaller hole below it. (Do not close the other eye. Cover it with an eyepatch. Keep the eye open under the patch. Closing one eye causes tension in the face, eye muscles.)

Using only one eye all the time causes imbalance in the visual system, left and right eyes' coordination, clarity of vision. Keep a balance; alternate using the pinhole paper with the left and right eyes. (See a second option below using both eyes.)

A white non-shiny paper works better than the black shiny plastic many holes pinhole glasses. The black shiny many holes pinhole glasses cause a mirror like reflection of lights, glare and a dark sunglasses effect. The white paper does not do this.

Using the pinhole effect through a paper, only one hole, one eye is a better option but it is still only for brief, temporary use. It is better than wearing eyeglasses but is not a perfect solution. It's artificial, is not natural vision. The pinhole is similar to the bad habit of squinting, but it does not cause the extreme tension squinting produces. All pinhole glasses and pinhole alternative devices interfere with totally free eye movement. Natural eye, vision function, eye shifting are restricted. Light entering the eyes is reduced. Pinholes block out a lot of the peripheral field. Even the 2 better option one hole pinhole devices below block out parts of the outer central field and much of the peripheral. Complete, perfect vision improvement is prevented by all types of pinholes.

NEVER use the pinhole when driving, operating machinery, using knives, anything that requires safety, full vision.

The pinhole can be used temporarily, occasionally to read fine print on a vitamin bottle, a far street sign... only for a few seconds. Use it as little as possible. Do NOT rely on the pinhole effect forever. Use your natural eyes-vision; no eyeglasses, no eyewear, no artificial vision. Read fine and microscopic print without eyeglasses, (no pinholes) to obtain perfect clear reading vision, perfect eye convergence and movement of the eyes, eyes' lens.

Shift on and see far objects clear without glasses, pinholes.

One Paper-Hole Per Eye Pinhole Glasses

Second option (see bottom picture); <u>One Paper-Hole Per Eye Pinhole Glasses</u>. Remove the lenses from a pair of eyeglasses. Place pinhole papers in the frames' lenses. Make one pinhole in the center of the paper for the left eye. One pinhole in the center of the paper for the right eye. (Don't poke your eye! DO NOT make the holes when wearing the frames.) Adjust the holes; the left hole is *directly in front of the left eye's pupil.* The right hole is *directly in front of the right eye's pupil.* Use frames with the most recent P. D. 'frame size' the eye doctor wrote on your prescription. This helps to get exact centering of the pinholes in front of the left and right eyes' pupils. Test position of the holes a few times and try different hole sizes. A small hole gives the clearest image *but* less light enters the eye, there is less peripheral, central vision. Move the holes close enough toward eachother so it looks like <u>one</u> *big as possible* visual field, (created by the 2 holes-2 eyes' fields combined into one) with the pinholes remaining in front of the left and right eyes' pupils. (the paper must NOT block the central field. Paper does not appear between the eyes.) The spacing of the left and right holes needs to be adjusted when changing distances (looking close, middle and far) so the pupils stay aligned with the pinholes. The eyes, pupils diverge when looking far. The pinholes need to be moved outward < > *a bigger space between them* when looking farther away. The pinholes are moved *closer together* >< as the eyes converge inward more and more when looking at closer distances and more close for book reading distance. Adjust the spacing of the holes to make that <u>one</u> *big as possible* visual field appear for each distance. Enable the frame to lengthen, shorten it's width; create a movable piece on the frame between the 2 lenses to adjust width-spacing of the left and right lens' paper pinholes for close, middle and far. It must not disrupt the balance-alignment of the frame nose piece. Pressure from the frame on the nose, face, head, ears can impair hearing, nerve, energy flow, circulation, cause dizziness and blurry eyesight. If you have measuring skills; the one paper-hole per eye pinhole glasses can be created using a long horizontal piece of sturdy paper. Adjust it long or short to line up the holes with the eyes' pupils when looking close, middle and far. Add handles to rest over the ears.

Prevent the paper from blocking the vision when using the one pinhole paper using one eye and when wearing the one paper-hole per eye pinhole glasses; <u>Move the head with the eyes to keep the pinholes in front of the eyes' pupils</u> - so the macula-fovea (central field) is not blocked by the paper when the eyes move. Example; eyes moving left and right when reading sentences. The head moves left and right with the eyes. The pinhole device is a temporary 'crutch'. Break free from it as the vision improves. What is the pinhole effect? The pinhole blocks many light rays, prevents them from entering the eyes. This removes a lot of the unfocused light rays in eyes that need vision improvement. Unfocused peripheral rays and unfocused rays near and in the central field are reduced. Fewer unfocused rays scatter upon the retina, macula-fovea. Result is less blur. In bright light the eye's iris-pupil acts as a pinhole, it becomes smaller to control light.

CHAPTER IX

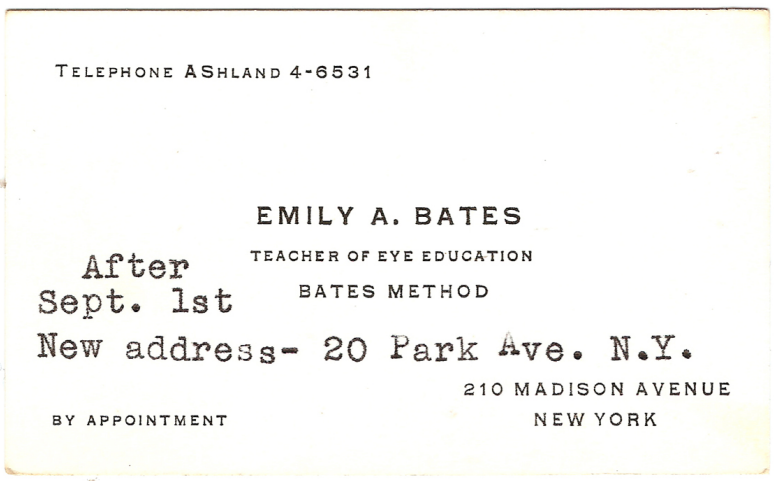
THE CAUSE AND CURE OF ERRORS OF REFRACTION

IT has been demonstrated in thousands of cases that all abnormal action of the external muscles of the eyeball is accompanied by a strain or effort to see, and that with the relief of this strain the action of the muscles becomes normal and all errors of refraction disappear. The eye may be blind, it may be suffering from atrophy of the optic nerve, from cataract, or disease of the retina; but so long as it does not try to see, the external muscles act normally and there is no error of refraction. This fact furnishes us with the means by which all these conditions, so long held to be incurable, may be cured.

It has also been demonstrated that for every error of refraction there is a different kind of strain. The study of images reflected from various parts of the eyeball confirmed what had previously been observed, namely, that myopia (or a lessening of hypermetropia) is always associated with a strain to see at the distance, while hypermetropia (or a lessening of myopia) is always associated with a strain to see at the near-point; and the fact can be verified in a few minutes by anyone who knows how to use a retinoscope, provided only that the instrument is not brought nearer to the subject than six feet.

In an eye with previously normal vision a strain to see near objects always results in the temporary production of hypermetropia in one or all meridians. That is, the eye either becomes entirely hypermetropic, or some form

Picture below and on page 90, 95, 96 are cards, instructions Dr. William H. Bates and Emily C. Lierman-A. Bates gave to patients in their clinic and through the mail. Seven Truths on back of this card are on the next page.



Patient reading fine print in a good light at thirteen inches, the object of vision being placed above the eye so as to be out of the line of the camera. Simultaneous retinoscopy indicated that the eye was focused at thirteen inches. The glass was used with the retinoscope to determine the amount of the refraction.

Fig. 34. Straining to See at the Near-Point Produces Hypermetropia

When the room was darkened the patient failed to read the fine print at thirteen inches and the retinoscope indicated that the eye was focused at a greater distance. When a conscious strain of considerable degree was made to see, the eye became hypermetropic.

Seven Truths of Normal Sight

1. Normal Sight can always be demonstrated in the normal eye, but only under favorable conditions.
2. Central Fixation: The letter or part of the letter regarded is always seen best.
3. Shifting: The point regarded changes rapidly and continuously.
4. Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions with a pendulum-like motion.
5. Memory is perfect. The color and background of the letters or other objects seen, are remembered perfectly, instantaneously and continuously.
6. Imagination is good One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size, or form, of the letters.
7. Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

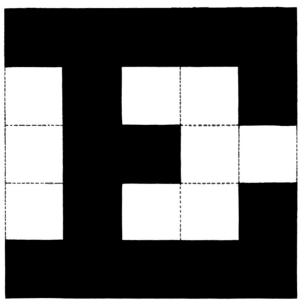
By W. H. BATES. M. D.

Fig. 35 Myopia Produced by unconscious Strain to See at the Distance is Increased by Conscious Strain.

No. 1.—Normal vision.

No. 2.—Same subject four years later with myopia. Note the strained expression.

No. 3.—Myopia increased by conscious effort to see a distant object.



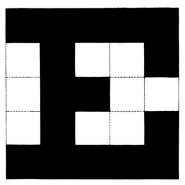


Fig. 36. Immediate Production of Myopia and Myopic Astigmatism in Eyes Previously Normal by Strain to See at the Distance

Boy reading the Snellen test card with normal vision. Note the absence of facial strain.

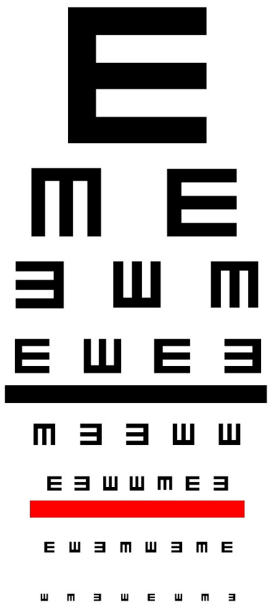
The same boy trying to see a picture at twenty feet. The effort, manifested by staring, produces compound myopic astigmatism, as revealed by the retinoscope.

Pothooks, Tumbling E Chart. >

For people who do not know the alphabet, have not learned to read. Vision test is done by pointing in the direction the E is facing. Pg. 429

The chart is also for relaxation; it's easier to see the letters clear because you can use the memory, imagination to guess the direction of the letter. Knowing it is an E prevents effort to see. Relaxation is maintained; the chart is clear. You don't have to speak the letters; you can use the hands to point the direction. See how easy, quickly you move along this '*Familiar*' eyechart. Blink, shift, relax. Familiar objects are easy to see. No effort to see = the eyesight remains clear.

Arrows < > are placed in this book to help people that are left handed and/or their brain hemisphere functions are reversed or imbalanced. I am left handed. I sometimes forget the direction for left and right. In the Army the Sargent made me carry a rock in the right hand so I would turn to the correct direction when marching to his left, right orders as he sang. Pictures, symbols, touch... make learning easy. Helen Keller learned to communicate by using other senses. The rock helped; I retained the feeling and mental image of the rock in my right hand and the feeling and mental image of the direction I turned to. I can still hear the Sargent's voice "Your left, your left, left-right, left...". When engaged in months of work that require mainly use of one brain hemisphere or one part-function of the brain; I re-activate the practice to integrate, balance my brain.



of astigmatism is produced of which hypermetropia forms a part. In the hypermetropic eye the hypermetropia is increased in one or all meridians. When the myopic eye strains to see a near object the myopia is lessened and emmetropia[1] may be produced, the eye being focussed for parallel rays while still trying to see at the near-point. In some cases the emmetropia may even pass over into hypermetropia in one or all meridians. All these changes are accompanied by evidences of increasing strain, in the form of eccentric fixation (see Chapter XI) and lowered vision; but, strange to say, pain and fatigue are usually relieved to a marked degree. If, on the contrary, the eye with previously normal vision strains to see at the distance, temporary myopia is always produced in one or all meridians, and if the eye is already myopic, the myopia is increased. If the hypermetropic eye strains to see a distant object, pain and fatigue may be produced or increased; but the hypermetropia and the eccen-

The same boy making himself myopic voluntarily by partly closing the eyelids and making a conscious effort to read the test card at ten feet.

[1] Emmetropia (from the Greek *emmetros*, in measure, and *ops*, the eye) is that condition of the eye in which it is focussed for parallel rays. This constitutes normal vision at the distance, but is an error of refraction when it occurs at the near-point.

Seeing Clear Without Strain;

For eyechart picture on bottom, right >.

1 - Set the chart letters and memorize them. They are now familiar objects, are easy to see. No effort to see the letters = no strain = the vision is clear. Shift on the letters. Blink.

2 - Next; rotate the blocks to different letters, positions (without looking at them; so you do not know what they are). This makes their placement unfamiliar. Walk away from the chart and do something else for a while.

3 - Look at the letters later, during the day or night *spontaneously* when resting or active moving around the house, yard in a positive state of mind. Note; the letters are seen clear when you look at the chart with relaxation, easily, no effort to see. When the eyes are shifting *automatically,* on their own. You are not thinking about the eyes and clarity of the vision. The mind is free of stress, strain. Mind and body are relaxed, your thoughts are pleasant, thinking of happy and/or interesting things. The chart is clear when you enjoy looking at it, are interested in the design of the letters, their shape, parts. This makes the eyes/vision move (shift) automatically.

4 - As you see the unfamiliar letters clear; Experience and memorize how you are thinking, and feeling in the mind, body. How nice the vision feels as it moves freely, easy, effortless and continually upon the perfectly clear letters and from letter to letter over the chart. (This can also be done on familiar, memorized letters or objects.)

5 - Later, when looking at the eyechart or anything you want to see; Reactivate that positive, relaxed state of mind, body. You do not need to 'practice' shifting. Just bring your mind and mood to something positive. Enjoy your thoughts. The brain and eyes will activate shifting and perfect clear vision *on their own*.

Shifting is 'practiced' to return the eyes and vision to completely natural *automatic* shifting.

Distance		Height	
60 M.	E	87.3	mm.
		60	mm.
36 M.	T	52.38	mm.
24 M.	D	34.92	mm.
18 M.	P	26.19	mm.
12 M.	F	17.46	mm.
9 M.	O	13.095	mm.
6 M.	L	8.73	mm.
1 M.	H	1.455	mm.
⅓ M.	V	0.485	mm.

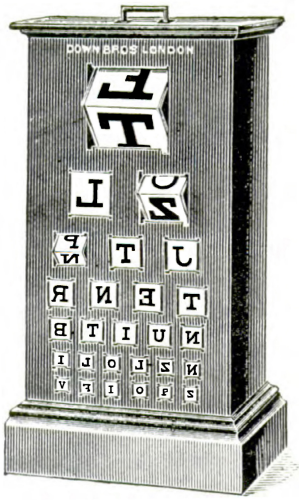
< One Letter Per Line Eyechart

Make vision testing easy; look at only one letter on a line. Shift on it for 1-2 seconds. Then move to the next letter/line below. Shift on the letter. Move to the next letter/ line below. Repeat to the bottom letter.

When a letter on the chart is unclear; a tendency to stare, become stiff, immobile, *use effort* to see the letters may occur. You get 'stuck' on the line. Shifting is reduced, rigid. This causes tension, increased blur. All the letters on the line become unclear.

Looking at only one letter per line prevents this. Relaxation returns. Then, all the letters on every line are dark black and perfectly clear. Mobility, shifting and relaxation remain. The vision flows easily over the chart, moving continually on letters, along each line of letters.

Relaxation and movement bring clear vision. When you look at something; shift on it. Even when looking at a very small part; let the vision drift around on it.



The Combinations Test Type as Suggested by Chas. Wray.

tric fixation are lessened and the vision improves. This interesting result, it will be noted, is the exact contrary of what we get when the myope strains to see at the near-point. In some cases the hypermetropia is completely relieved, and emmetropia is produced, with a complete disappearance of all evidences of strain. This condition may then pass over into myopia, with an increase of strain as the myopia increases.

In other words the eye which strains to see at the near-point becomes flatter than it was before, in one or all meridians. If it was elongated to start with, it may pass

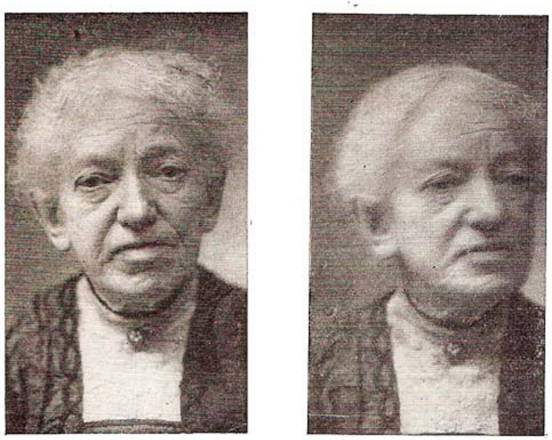
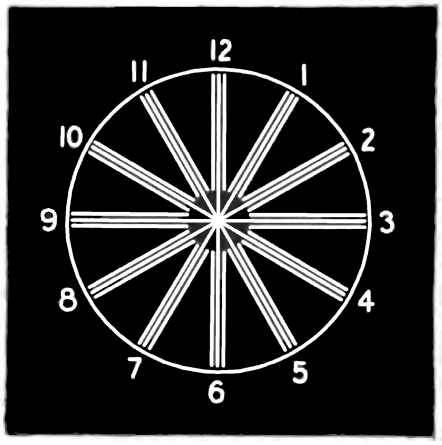


Fig. 37. Myopic Astigmatism comes and Goes According as the Subject Looks at Distant Objects With or Without Strain

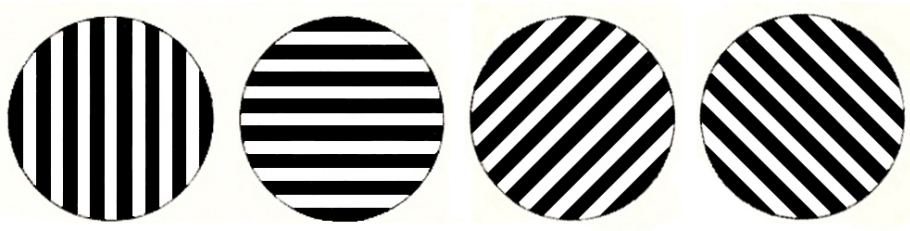
No. 1.—Patient regarding the Snellen test card at ten feet without effort and reading the bottom line with normal vision.

No. 2.—The same patient making an effort to see a picture at twenty feet. The retinoscope indicated compound myopic astigmatism.



Astigmatic clock dial

Shift and trace on the white lines. Shift from line to line. Shift on the numbers. Trace on/around the circle counter-clockwise and clockwise. Practice with both eyes together, then one eye at a time, then with both eyes together again. Move the head/face with the eyes-in the same direction you look to. Blink.



Astigmatism test. Test with both eyes together, then one eye at a time.
(Look at one line at a time and move 'shift' relaxed from line to line. Blink.)

Eyes with clear sight see all the black and white lines clear, solid and straight. If astigmatism is present; the color black might appear lighter, the white greyish.., lines are blurry, wavy, distorted. With relaxation, shifting and other Bates Method practice, the lines become clear, solid, straight and astigmatism is removed.

from this condition through emmetropia, in which it is spherical, to hypermetropia, in which it is flattened; and if these changes take place unsymmetrically, astigmatism will be produced in connection with the other conditions. The eye which strains to see at the distance, on the contrary, becomes longer than it was before in one or all meridians, and may pass from the flattened condition of hypermetropia, through emmetropia, to the elongated condition of myopia. If these changes take place unsymmetrically, astigmatism will again be produced in connection with the other conditions.

What has been said of the normal eye applies equally to eyes from which the lens has been removed. This operation produces usually a condition of hypermetropia; but when there has previously been a condition of high myopia the removal of the lens may not be sufficient to correct it, and the eye may still remain myopic. In the first case a strain to see at the distance lessens the hypermetropia, and a strain to see at the near-point increases it; in the second a strain to see at the distance increases the myopia, and a strain to see at the near-point lessens it. For a longer or shorter period after the removal of the lens many aphakic eyes strain to see at the near-point, producing so much hypermetropia that the patient cannot read ordinary print, and the power of accommodation appears to have been completely lost. Later, when the patient becomes accustomed to the situation, this strain is often relieved, and the eye becomes able to focus accurately upon near objects. Some rare cases have also been observed in which a measure of good vision both for distance and the near-point was obtained without glasses, the eyeball elongating sufficiently to compensate, to some degree, for the loss of the lens.

DIRECTIONS FOR THE USE OF THE SNELLEN CHART

PLACE the card on the wall, stand about ten feet away, and read as far down the card as possible, first with one eye, then with the other, keeping the eye not in use covered with the palm of the hand. Keep a daily record of the line read in order to follow progress.

Over each line of letters is a little numeral, indicating that at that distance the letters below should be read by the normal eye. For instance, over the big C at the top, is the figure 200. This letter therefore, should be read at a distance of 200 feet.

By frequent palming, swinging, and resting the eyes, it is possible to improve all cases of defective vision to normal. Imperfect sight is caused by strain and cured by rest. The use of the Snellen Test Card prevents and cures strain.

If, for example, you can only see to the fifth line, place your hands over your eyes and palm. Remember a small letter perfectly black, as the memory of perfect letters of objects is restful.

There are various and numerous ways of using the card. Another favorite use is to swing the letters. Place the card at a comfortable distance, and look to the right of it.

You can also start reading the chart with both eyes together. Then; use one eye at a time. Then; end with both eyes together.

It is ok to use the hand for a short time to cover the eye not in use. But, for longer practice time; cover the eye with a eyepatch. This prevents fatigue and tension in the hand, arm...

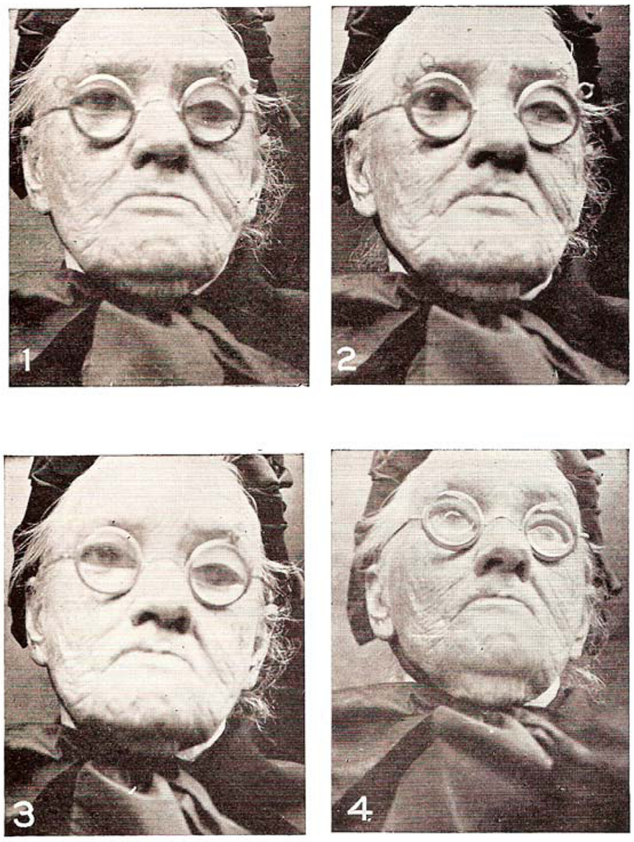


Fig. 38. This Patient Had Had the Lens of the Right Eye Removed for Cataract and Was Wearing an Artificial Eye in the Left Socket. The Removal of the Lens created a Condition of Hypermetropia Which Was Corrected by a Con vex Glass of Ten Diopters.

If you swing in one direction, the card seems to go in another. All those familiar with Dr. Bates' method, know the value of seeing things moving all the time.

Many serious defects can be cured by the use of the Snellen, and those who have normal sight can improve it, becoming able to read the ten line at fifteen feet or further.

The Snellen Test Cards may be obtained at this office.

C. Snellen $1.00 ~~25cts~~
All others designed by Dr. Bates including black with white letters ~~50 cents~~ and $1.00.

E. A. Bates
~~Central Fixation Publishing Co.~~
~~18 East 48th St.~~ New York City
210 Madison Ave.

HOW TO USE THE SNELLEN TEST CARD

for

The Prevention and Cure of Imperfect Sight in Children and Adults.

By

W. H. BATES, M. D.

NEW YORK CITY

No. 1.—The patient is reading the Snellen test card at twenty feet with normal vision. No. 2.—She is straining to see the test card at the same distance, and her hypermetropia is lessened by two diopters so that her glass now overcorrects it and she cannot see the card perfectly. No. 3.—With a convex reading glass of thirteen diopters the right eye is focussed accurately at thirteen inches. No. 4.—The patient is straining to see at the same distance and her hypermetropia is so increased that in order to read she would require a glass of fifteen diopters. On the basis of the accepted theory that the power of accommodation is wholly destroyed by the removal of the lens these changes in the refraction would have been impossible. The experiment was repeated several times and it was found that the error of refraction produced by straining to see varied, being sometimes more and sometimes less than two diopters.

Try Dancing

THERE has been repeatedly published in this magazine and in my book that the imagination of stationary objects to be moving is a rest and relaxation and a benefit to the sight. Young children, when one or both eyes turn in or out, are benefited by having them swing from side to side with a regular rhythmical motion. This motion prevents the stare and the strain and improves the appearance of the eyes. It helps the sight of most children to play puss-in-the-corner or to play hide-and-seek. Children become very much excited and laugh and carry on and have a good time and it certainly is a benefit to their sight. It seems to me that these children would be benefited by going to dancing school. Many of my patients practice the long swing in the office and give strangers the impression that they are practicing steps of a dance. One patient with imperfect sight from detachment of the retina recently told me over the telephone that he went to a dance the night before and although he lost considerable sleep his sight was very much improved on the following morning.

Dancing is certainly a great help to keep things moving or to imagine stationary objects are moving, and is always recommended. Some people have told me that the *memory* of the music, the constant rhythmic motion and the relaxation have improved the vision.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1921, by the Central Fixation Publishing Company
Editor, W. H. BATES, M. D.
Publisher, CENTRAL FIXATION PUBLISHING COMPANY

Vol. VII. JUNE, 1923 No. 12

Common Sense

By W. H. BATES, M.D.

MANY people have asked me what I call my treatment. The question was a very embarrassing one because I really have no name to give it unless I can say that my methods are the methods employed by the normal eye. When a person has normal sight the eye is at rest, and when the eye is at rest, strange to say, it is always moving to avoid the stare. When the eye moves it is possible to imagine stationary objects are also moving. When the normal eye stares at one point of a letter or at all parts of a letter the vision always becomes imperfect. Persons with imperfect sight are always staring. Under favorable conditions all persons with near-sightedness do not stare, do not try to see, and the near-sightedness disappears for a longer or shorter time; no exceptions have been observed. In other parts of this magazine I have mentioned this fact and recorded that even patients with 40 D have moments when they are not nearsighted when they do not try to see.

The phenomena associated with strain in the human eye have also been observed in the eyes of the lower animals. I have made many dogs myopic by inducing them to strain to see a distant object. One very nervous dog, with normal refraction, as demonstrated by the retinoscope, was allowed to smell a piece of meat. He became very much excited, pricked up his ears, arched his eyebrows and wagged his tail. The meat was then removed to a distance of twenty feet. The dog looked disappointed, but didn't lose interest. While he was watching the meat it was dropped into a box. A worried look came into his eyes. He strained to see what had become of it, and the retinoscope showed that he had become myopic. This experiment, it should be added, would succeed only with an animal possessing two active oblique muscles. Animals in which one of these muscles is absent or rudimentary are unable to elongate the eyeball under any circumstances.

Primarily the strain to see is a strain of the mind, and, as in all cases in which there is a strain of the mind, there is a loss of mental control. Anatomically the results of straining to see at a distance may be the same as those of regarding an object at the near point without strain; but in one case the eye does what the mind desires; and in the other it does not.

These facts appear sufficiently to explain why visual acuity declines as civilization advances. Under the conditions of civilized life men's minds are under a continual strain. They have more things to worry them than uncivilized man had, and they are not obliged to keep cool and collected in order that they may see and do other things upon which existence depends. If he allowed himself to get nervous, primitive man was promptly

eliminated; but civilized man survives and transmits his mental characteristics to posterity. The lower animals when subjected to civilized conditions respond to them in precisely the same way as do human creatures. I have examined many domestic and menagerie animals, and have found them, in many cases, myopic, although they neither read, nor write, nor sew, nor set type.

A decline in visual acuity at the distance, however, is

Fig. 39. A Family Group Strikingly Illustrating the Effect of the Mind Upon the Vision

No. 1.—Girl of four with normal eyes. No. 2.—The child's mother with myopia. No. 3—The same girl at nine with myopia. Note that her expression has completely changed, and is now exactly like her mother's. Nos. 4, 5 and 6.—The girl's brother at two, six and eight. His eyes are normal in all three pictures. The girl has either inherited her mother's disposition to take things hard, or has been injuriously effected by her personality of strain. The boy has escaped both influences. In view of the prevailing theories about the relation of heredity to myopia, this picture is particularly interesting.

no more a peculiarity of civilization than is a similar decline at the near-point. Myopes, although they see better at the near-point than they do at the distance, never see as well as does the eye with normal sight;

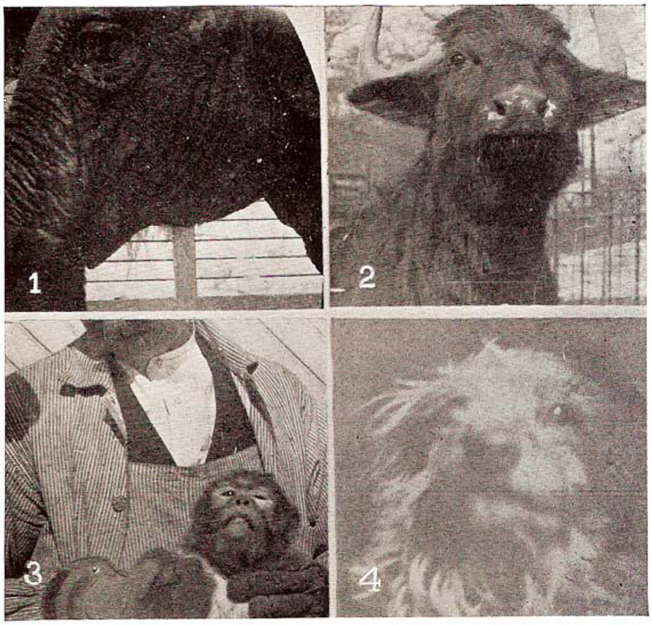


Fig. 40. Myopes Who Never Went to School, or Read in the Subway

No. 1.—Myopic elephant in the Central Park Zoo, New York, thirty-nine years old. Young elephants and other young animals were found to have normal vision.

No. 2.—Cape buffalo with myopia, Central Park Zoo.

No. 3.—Myopic monkey, also in the Central Park Zoo.

No. 4.—Pet dog with myopia which progressed from year to year.

and in hypermetropia, which is more common than myopia, the sight is worse at the near-point than at the distance.

The remedy is not to avoid either near work or distant vision, but to get rid of the mental strain which underlies the imperfect functioning of the eye at both points; and it has been demonstrated in thousands of cases that this can always be done.

Fortunately, all persons are able to relax under certain conditions at will. In all uncomplicated errors of refraction the strain to see can be relieved, temporarily, by having the patient look at a blank wall without trying to see. To secure permanent relaxation sometimes requires considerable time and much ingenuity. The same method cannot be used with everyone. The ways in which people strain to see are infinite, and the methods used to relieve the strain must be almost equally varied. Whatever the method that brings most relief, however, the end is always the same, namely relaxation. By constant repetition and frequent demonstration and by all means possible, the fact must be impressed upon the patient that perfect sight can be obtained only by relaxation. Nothing else matters.

Most people, when told that rest, or relaxation, will cure their eye troubles, ask why sleep does not do so. The answer to this question was given in Chapter VII. The eyes are rarely, if ever, completely relaxed in sleep, and if they are under a strain when the subject is awake, that strain will certainly be continued during sleep, to a greater or less degree, just as a strain of other parts of the body is continued.

The idea that it rests the eyes not to use them is also erroneous. The eyes were made to see with, and if when

they are open they do not see, it is because they are under such a strain and have such a great error of refraction that they cannot see. Near vision, although accomplished by a muscular act, is no more a strain on them than is distant vision, although accomplished without the intervention of the muscles. The use of the muscles does not necessarily produce fatigue. Some men can run for hours without becoming tired. Many birds support themselves upon one foot during sleep, the toes tightly clasping the swaying bough and the muscles remaining unfatigued by the apparent strain. Fabre tells of an insect which hung back downward for ten months from the roof of its wire cage, and in that position performed all the functions of life, even to mating and laying its eggs. Those who fear the effect of civilization, with its numerous demands for near vision, upon the eye may take courage from the example of this marvelous little animal which, in a state of nature, hangs by its feet only at intervals, but in captivity can do it for ten months on end, the whole of its life's span, apparently without inconvenience or fatigue.[1]

The fact is that when the mind is at rest nothing can tire the eyes, and when the mind is under a strain nothing can rest them. Anything that rests the mind will benefit the eyes. Almost everyone has observed that the eyes tire less quickly when reading an interesting book than when perusing something tiresome or difficult to comprehend. A schoolboy can sit up all night reading a novel without even thinking of his eyes, but if he tried to sit up all night studying his lessons he would soon find them getting very tired. A child whose vision was

[1] The Wonders of Instinct, English translation by de Mattos and Miall, 1918, pp. 36-38.

ordinarily so acute that she could see the moons of Jupiter with the naked eye became myopic when asked to do a sum in mental arithmetic, mathematics being a subject which was extremely distasteful to her. Sometimes the conditions which produce mental relaxation are very curious. One patient, for instance, was able to correct her error of refraction when she looked at the test card with her body bent over at an angle of about forty-five degrees, and the relaxation continued after she had assumed the upright position. Although the position was an unfavorable one, she had somehow got the idea that it improved her sight, and therefore it did so.

The time required to effect a permanent cure varies greatly with different individuals. In some cases five, ten, or fifteen minutes is sufficient, and I believe the time is coming when it will be possible to cure everyone quickly. It is only a question of accumulating more facts, and presenting these facts in such a way that the patient can grasp them quickly. At present, however, it is often necessary to continue the treatment for weeks and months, although the error of refraction may be no greater nor of longer duration than in those cases that are cured quickly. In most cases, too, the treatment must be continued for a few minutes every day to prevent relapse. Because a familiar object tends to relax the strain to see, the daily reading of the Snellen test card is usually sufficient for this purpose. It is also useful, particularly when the vision at the near point is imperfect, to read fine print every day as close to the eyes as it can be done. When a cure is complete it is always permanent; but complete cures, which mean the attainment, not of what is ordinarily called normal sight, but of a measure of telescopic and microscopic vision,

are very rare. Even in these cases, too, the treatment can be continued with benefit; for it is impossible to place limits to the visual powers of man, and no matter how good the sight, it is always possible to improve it.

Daily practice of the art of vision is also necessary to

Fig. 41.—One of Many Thousands of Patients Cured of Errors of Refraction by the Methods Presented in This Book

No. 1.—Man of thirty-six, 1902, wearing glasses for myopia. Note the appearance of effort in his eyes. He was relieved in 1904 by means of exercises in distant vision and obtained normal sight without glasses.

No. 2.—The same man five years later. No relapse.

prevent those visual lapses to which every eye is liable, no matter how good its sight may ordinarily be. It is true that no system of training will provide an absolute safeguard against such lapses in all circumstances; but the daily reading of small distant, familiar letters will do much to lessen the tendency to strain when disturbing circumstances arise, and all persons upon whose eyesight the safety of others depends should be required to do this.

Generally persons who have never worn glasses are

more easily cured than those who have, and glasses should be discarded at the beginning of the treatment. When this cannot be done without too great discomfort, or when the patient has to continue his work during the treatment and cannot do so without glasses, their use must be permitted for a time; but this always delays the cure. Persons of all ages have been benefited by this treatment of errors of refraction by relaxation; but children usually, though not invariably, respond much more quickly than adults. If they are under twelve years of age, or even under sixteen, and have never worn glasses, they are usually cured in a few days, weeks, or months, and always within a year, simply by reading the Snellen test card every day.

The same Natural Vision practices are used to see clear at night. Shift, central-fixation, relaxation. Practice looking close and far;
See page 167 for Night Vision Shifting and Switching.

CHAPTER X

STRAIN

TEMPORARY conditions may contribute to the strain to see which results in the production of errors of refraction; but its foundation lies in wrong habits of thought. In attempting to relieve it the physician has continually to struggle against the idea that to do anything well requires effort. This idea is drilled into us from our cradles. The whole educational system is based upon it; and in spite of the wonderful results attained by Montessori through the total elimination of every species of compulsion in the educational process, educators who call themselves modern still cling to the club, under various disguises, as a necessary auxiliary to the process of imparting knowledge.

It is as natural for the eye to see as it is for the mind to acquire knowledge, and any effort in either case is not only useless, but defeats the end in view. You may force a few facts into a child's mind by various kinds of compulsion, but you cannot make it learn anything. The facts remain, if they remain at all, as dead lumber in the brain. They contribute nothing to the vital processes of thought; and because they were not acquired naturally and not assimilated, they destroy the natural impulse of the mind toward the acquisition of knowledge, and by the time the child leaves school or college, as the case may be, it not only knows nothing but is, in the majority of cases, no longer capable of learning.

In the same way you may temporarily improve the sight by effort, but you cannot improve it to normal, and

if the effort is allowed to become continuous, the sight will steadily deteriorate and may eventually be destroyed. Very seldom is the impairment or destruction of vision due to any fault in the construction of the eye. Of two equally good pairs of eyes one will retain perfect sight to the end of life, and the other will lose it in the kindergarten, simply because one looks at things without effort and the other does not.

The eye with normal sight never tries to see. If for any reason, such as the dimness of the light, or the distance of the object, it cannot see a particular point, it shifts to another. It never tries to bring out the point by staring at it, as the eye with imperfect sight is constantly doing.

Whenever the eye tries to see, it at once ceases to have normal vision. A person may look at the stars with normal vision; but if he tries to count the stars in any particular constellation, he will probably become myopic. because the attempt to do these things usually results in an effort to see. A patient was able to look at the letter K on the Snellen test card with normal vision, but when asked to count its twenty-seven corners he lost it completely.

It obviously requires a strain to fail to see at the distance, because the eye at rest is adjusted for distant vision. If one does anything when one wants to see at the distance, one must do the wrong thing. The shape of the eyeball cannot be altered during distant vision without strain. It is equally a strain to fail to see at the near-point, because when the muscles respond to the mind's desire they do it without strain. Only by an effort can one prevent the eye from elongating at the near-point.

From Dr. Bates Better Eyesight Magazine - Jan., 1929

A man, aged sixty, suffering from astigmatism, had great difficulty in practicing central fixation, shifting, swinging, and the long swing. After four visits to my office he said that he had obtained no relief from his depression, his headaches, or other symptoms of astigmatism.

He was advised to sit in the waiting room and try to do nothing whatever. At the end of this time his vision was tested and found to be normal. He was unable to practice relaxation methods because he made too great an effort, but when he did nothing and made no effort, his vision improved.

The eye possesses perfect vision only when it is absolutely at rest. Any movement, either in the organ or the object of vision, produces an error of refraction. With the retinoscope it can be demonstrated that even the necessary movements of the eyeball produce a slight error of refraction, and the moving pictures have given us a practical demonstration of the fact that it is impossible to see a moving object perfectly. When the movement of the object of vision is sufficiently slow, the resulting impairment of vision is so slight as to be inappreciable, just as the errors of refraction produced by slight movements of the eyeball are inappreciable; but when objects move very rapidly they can be seen only as a blur. For this reason it has been found necessary to arrange the machinery for exhibiting moving pictures in such a way that each picture is halted for a twenty-fourth of a second, and screened while it is moving into place. Moving pictures, accordingly, are never seen in motion.

The act of seeing is passive. Things are seen, just as they are felt, or heard, or tasted, without effort or volition on the part of the subject. When sight is perfect the letters on the test card are waiting, perfectly black and perfectly distinct, to be recognized. They do not have to be sought; they are there. In imperfect sight they are sought and chased. The eye goes after them. An effort is made to see them.

The muscles of the body are supposed never to be at rest. The blood-vessels, with their muscular coats, are never at rest. Even in sleep thought does not cease. But the normal condition of the nerves of sense—of hearing, sight, taste, smell and touch—is one of rest. They can be acted upon; they cannot act. The optic nerve, the

Practice Natural Eyesight Improvement, then DON'T PRACTICE; The vision is perfectly clear when you are not thinking about the eyes, clarity of vision, not trying to see, not 'consciously' practicing. Forget about the eyes, vision. Allow the visual system to function completely natural, automatically, on its own. When practicing; avoid trying to see clear. Avoid effort. Let the clarity come to you nice and easy. It will in time, right now or in hours, days, months, and it will remain clear. The eyes are organs, they function similar to the heart, lungs, the act of walking, the senses of touch, taste, smell, hearing... These acts, including vision are at maximum perfect function when you are not interfering with them-not trying to control them, force perfect action. You can improve them; as when walking in different ways; strolling, skipping, dancing... But don't make it an effort. It is meant to be fun. Read Dr. Bates Better Eyesight Magazine; often his patients vision becomes clear when they do nothing, when they just relax and stop wearing eyeglasses.

Practicing shifting, central-fixation... brings clear vision but 'practice' is not completely natural because you are consciously controlling the eyes, mind and vision. It definitely helps to practice shifting, central-fixation... It gives a gentle push 'coaxes' the visual system, eyes back to correct function, relaxation. You are imitating normal movement, function of the eyes, vision, body and mind. Relaxing the mind, integrating and balancing the brain hemispheres, brain functions, improving them and helping the brain remember how to function correct with the eyes, vision, retina, eye muscles... Correct function is preserved in our brain-DNA and spirit from birth. You are reactivating it. When practicing the Bates Method; do it relaxed, effortless. Then; let the eyes, system work completely natural on their own and notice the vision becomes *more clear*, perfect! You now see the small bottom 10 eyechart line at 30 to 40 feet! Shifting, central-fixation (centralizing), movement have become automatic habits. When the vision is clear; everything is functioning perfect.

Maintain Correct Vision Habits; shifting, centralizing, relaxation, breathe, blink... Avoid Incorrect Habits; squinting, staring 'eye-vision immobility', diffusion, holding the breath-shallow breathing. Avoid glasses. The vision will remain clear. Removing glasses is often all that is needed. The visual system, eyes already know how to function normally, shift... Glasses prevent this. Use shifting, centralizing, the swing, memory, imagination, sunlight, all of the practices with relaxation. Active, energetic *dynamic relaxation* as Aldous Huxley teaches in 'The Art Of Seeing' or less active, deeper relaxation states of Alpha, Theta... A positive state of the mind brings clear eyesight.

retina and the visual centers of the brain are as passive as the finger-nail. They have nothing whatever in their structure that makes it possible for them to do anything, and when they are the subject of effort from outside sources their efficiency is always impaired.

The mind is the source of all such efforts from outside sources brought to bear upon the eye. Every thought of effort in the mind, of whatever sort, transmits a motor impulse to the eye; and every such impulse causes a deviation from the normal in the shape of the eyeball and lessens the sensitiveness of the center of sight. If one wants to have perfect sight, therefore, one must have no thought of effort in the mind. Mental strain of any kind always produces a conscious or unconscious eyestrain and if the strain takes the form of an effort to see, an error of refraction is always produced. A schoolboy was able to read the bottom line of the Snellen test card at ten feet, but when the teacher told him to mind what he was about he could not see the big C.[1] Many children can see perfectly so long as their mothers are around; but if the mother goes out of the room, they may at once become myopic, because of the strain produced by fear. Unfamiliar objects produce eyestrain and a consequent error of refraction, because they first produce mental strain. A person may have good vision when he is telling the truth; but if he states what is not true, even with no intent to deceive, or if he imagines what is not true, an error of refraction will be produced, because it is impossible to state or imagine what is not true without an effort.

I may claim to have discovered that telling lies is bad

[1] In this case and others to be mentioned later, the large letter at the top of the card read by the eye with normal vision at two hundred feet, was a "C."

for the eyes, and whatever bearing this circumstance may have upon the universality of defects of vision, the fact can easily be demonstrated. If a patient can read all the small letters on the bottom line of the test card, and either deliberately or carelessly miscalls any of them, the retinoscope will indicate an error of refraction. In numerous cases patients have been asked to state their ages incorrectly, or to try to imagine that they were a year older or a year younger than they actually were, and in every case when they did this the retinoscope indicated an error of refraction. A patient twenty-five years old had no error of refraction when he looked at a blank wall without trying to see; but if he said he was twenty-six or if someone else said he was twenty-six, or if he tried to imagine that he was twenty-six, he became myopic. The same thing happened when he stated or tried to imagine that he was twenty-four. When he stated or remembered the truth his vision was normal, but when he stated or imagined an error he had an error of refraction.

Two little girl patients arrived one after the other one day, and the first accused the second of having stopped at Huyler's for an ice cream soda, which she had been instructed not to do, being somewhat too much addicted to sweets. The second denied the charge, and the first, who had used the retinoscope and knew what it did to people who told lies, said:

"Do take the retinoscope and find out."

I followed the suggestion, and having thrown the light into the second child's eyes, I asked:

"Did you go to Huyler's?"

"Yes," was the response, and the retinoscope indicated no error of refraction.

"Did you have an ice-cream soda?"

"No," said the child; but the telltale shadow moved in a direction opposite to that of the mirror, showing that she had become myopic and was not telling the truth.

The child blushed when I told her this and acknowledged that the retinoscope was right; for she had heard of the ways of the uncanny instrument before and did not know what else it might do to her if she said anything more that was not true.

So sensitive is this test that if the subject. whether his vision is ordinarily normal or not, pronounces the initials of his name correctly while looking at a blank surface without trying to see, there will be no error of refraction; but if he miscalls one initial, even without any consciousness of effort, and with full knowledge that he is deceiving no one, myopia will be produced.

Mental strain may produce many different kinds of eyestrain. According to the statement of most authorities there is only one kind of eyestrain, an indefinite thing resulting from so-called over-use of the eyes, or an effort to overcome a wrong shape of the eyeball. It can be demonstrated, however, that there is not only a different strain for each different error of refraction, but a different strain for most abnormal conditions of the eye. The strain that produces an error of refraction is not the same as the strain that produces a squint, or a cataract,[1] or glaucoma,[2] or amblyopia.[3] or inflammation of the conjunctiva[4] or of the margin of the lids, or disease of the optic nerve or retina. All these conditions may exist

[1] An opacity of the lens.

[2] A condition in which the eyeball becomes abnormally hard.

[3] A condition in which there is a decline of vision without apparent cause.

[4] A membrane covering the inner surface of the eyelid and the visible part of the white of the eye.

with only a slight error of refraction, and while the relief of one strain usually means the relief of any others that may coexist with it, it sometimes happens that the strain associated with such conditions as cataract and glaucoma is relieved without the complete relief of the strain that causes the error of refraction. Even the pain that so often accompanies errors of refraction is never caused by the same strain that causes these errors. Some myopes cannot read without pain or discomfort, but most of them suffer no inconvenience. When the hypermetrope regards an object at the distance the hypermetropia is lessened, but pain and discomfort may be increased. While there are many strains, however, there is only one cure for all of them, namely, relaxation.

The health of the eye depends upon the blood, and circulation is very largely influenced by thought. When thought is normal—that is, not attended by any excitement or strain—the circulation in the brain is normal, the supply of blood to the optic nerve and the visual centers is normal. and the vision is perfect. When thought is abnormal the circulation is disturbed, the supply of blood to the optic nerve and visual centers is altered, and the vision lowered. We can consciously think thoughts which disturb the circulation and lower the visual power; we can also consciously think thoughts that will restore normal circulation, and thereby cure, not only all errors of refraction, but many other abnormal conditions of the eyes. We cannot by any amount of effort make ourselves see, but by learning to control our thoughts we can accomplish that end indirectly.

You can teach people how to produce any error of refraction, how to produce a squint, how to see two images of an object, one above another, or side by side,

Some health food stores, vision teachers sell vitamins, nutrients for the eyes that contain herbs and other ingredients that produce side effects, impair the body, eyes' health and clarity of vision. They do not warn students about this. Choose teachers, products carefully!

The health of the liver, kidneys, gall bladder, spleen, digestion, lungs... affect the eyes' health and vision. There are healthy, effective remedies that perfect function of the organs, circulation.., improve health-function of the body and eyes. Many plants, roots, herbs, flowers, vegetables, food, vitamins, minerals... are healthy. BUT; some impair the body's chemistry, hormones, ph, blood and eye pressure, health of the eyes, body and impair the clarity of vision. This also disrupts health-function of the brain and it's function with the eyes-retina-vision.

Healthy nutritious, organic, non GMO food has a positive effect on the clarity of vision, health of body and eyes. Most vitamins, nutrients... are beneficial but they are best acquired from fresh food. If taken in pill form, it must be created from food. Not artificially from chemicals. No additives... Read the Nutrition webpage; clearеyesight-batesmethod.info/id21.html Bilberry berries are healthy. When buying bilberry; ask for pure organic bilberry fruit, the berries only, no leaf. (Bilberry leaf can be toxic.) The berries are excellent. Bilberries improve eye health and day, night vision. It's an old World War Two pilots food for clear night vision when flying. They ate it as bilberry jam. Do not add sugar. True bilberry contains a lot of dark red/purple juice inside the berry and the skin. It temporarily stains the skin when the berry is compressed in the fingers, as a blackberry or wild blueberry does. This juice and entire berry is healthy for the eyes, retina, its cells, cones-rods light receptors. Lutein and other nutrients, carrots, spinach, lemon-orange peels with the white part, cornsilk, certain types of chrysanthemum... are beneficial. Avoid products containing eyebright, bilberry leaf, sulfite's, sulfate, nitrites, nitrate and other unhealthy additives, chemicals, preservatives.., aspartame, certain herbs. Natural sulfur from cabbage... is healthy. Chemical versions are not. Sulfite's, sulfate, nitrites, MSG, MSG variations (hydrolyzed... protein, corn, soy, yeast.., yeast extract), aspirin, aspirin type herbs, other herbs can cause temporary migraine headaches with flashing lights, blind spots in the visual field, impaired memory, a variety of health problems. Read the labels, check all the ingredients. MSG is also called flavor enhancer. MSG, other chemicals are labeled under many different names that governments have legalized so the food industry, restaurants can hide ingredients. (Special interest groups, drug companies bribing-owning politicians.) Drugs for bone strength destroy the joints, bones and cause cancer, cataract.., health problems. My mother died due to a drug forced on her by dishonest doctors frightening her about bone strength. Not one natural cure was provided. Low levels of oxygen in the body, brain, eyes caused by smoking and the toxins in tobacco and other smoke products cause glaucoma, cataract and other eye-vision problems.

Aspirin causes kidney, stomach damage, headache, migraine, many health problems. It's addictive. Acetaminophen, NSAID's cause kidney, liver, joint damage, heart attacks, many health problems, impairs eye health, vision. Avoid calcium in pill form. It creates deposits in the heart, kidneys, bones-tendons... Eat real, pure, plain-full fat Greek Yogurt (no sugar, nothing added), and dark greens, cheese, other natural *food* sources of calcium. Poor diet, dehydration, injuries, drugs, chemicals, eye drops, some eye medicine, sinus infection or congestion, mold, allergy, air pollution, lead, tooth cavities cause eye-vision problems. Prescription, non-prescription eye drops and *phony* natural eye drops contain toxins, chemicals. Sinus sprays with chemicals... cause glaucoma, cataract, impair color perception, central and peripheral vision.

or at any desired angle from one another, simply by teaching them how to think in a particular way. When the disturbing thought is replaced by one that relaxes, the squint disappears, the double vision and the errors of refraction are corrected; and this is as true of abnormalties of long standing as of those produced voluntarily. No matter what their degree or their duration their cure is accomplished just as soon as the patient is able to secure mental control. The cause of any error of refraction, of a squint, or of any other functional disturbance of the eye, is simply a thought—a wrong thought—and the cure is as quick as the thought that relaxes. In a fraction of a second the highest degrees of refractive error may be corrected, a squint may disappear, or the blindness of amblyopia may be relieved. If the relaxation is only momentary, the correction is momentary. When it becomes permanent, the correction is permanent.

This relaxation cannot, however, be obtained by any sort of effort. It is fundamental that patients should understand this; for so long as they think, consciously or unconsciously, that relief from strain may be obtained by another strain their cure will be delayed.

Palming relaxes the sensing eyes and the seeing mind. Sit down, comfortably place elbows on a table, cover closed eyes as shown in the illustration. Base of palms should rest on the cheekbones to exclude light though eyeballs remain untouched.

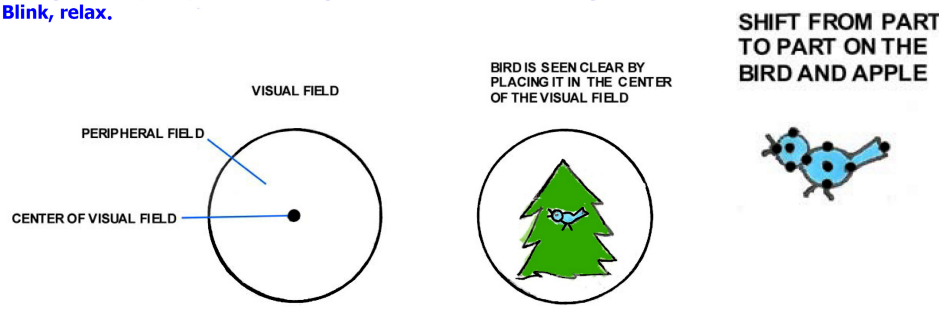
CHAPTER XI

CENTRAL FIXATION

THE eye is a miniature camera, corresponding in many ways very exactly to the inanimate machine used in photography. In one respect, however, there is a great difference between the two instruments. The sensitive plate of the camera is equally sensitive in every part; but the retina has a point of maximum sensitiveness, and every other part is less sensitive in proportion as it is removed from that point. This point of maximum sensitiveness is called the "fovea centralis," literally the "central pit."

The retina, although it is an extremely delicate membrane, varying in thickness from one-eightieth of an inch to less than half that amount, is highly complex. It is composed of nine layers, only one of which is supposed to be capable of receiving visual impressions. This layer is composed of minute rodlike and conical bodies which vary in form and are distributed very differently in its different parts. In the center of the retina is a small circular elevation known, from the yellow color which it assumes in death and sometimes also in life, as the "macula lutea," literally the "yellow spot." In the center of this spot is the fovea, a deep depression of darker color. In the center of this depression there are no rods, and the cones are elongated and pressed very closely together. The other layers, on the contrary, become here extremely thin, or disappear altogether, so that the cones are covered with barely perceptible traces of them. Beyond the center of the fovea the cones become thicker and fewer

Central-fixation is combined with shifting = shift, move the eyes (visual attention, center of the visual field) from part to part on the object. The eyes, head/face, neck and body are relaxed and move freely. Blink, relax.



Central-fixation (central vision, centralizing) and shifting pictures, directions are on page 399+. Practice shifting on the black dots on the bird and apple; shift from dot to dot in any direction, pattern. Blink. This is central-fixation 'looking at one part (dot) at a time'. The dot the eyes are looking directly at is clearest. When the eyes shift to a new dot, it becomes the clearest dot because the central field has moved onto it. The eyes (central field) moves 'shifts' continually from dot to dot *(small part to small part)* on the object, seeing <u>one dot at a time</u> best. Because the eyes-central field are always moving; all areas of the visual field, all objects appear perfectly and equally clear. In reality; The object you are looking directly at is seen clearest, and the part of the object the eyes-central field is on is <u>most</u> clearest. Next; shift on small parts of real objects in your environment. Do not imagine dots on the objects. The dots on the pictures are only for learning central-fixation and how to combine it with shifting.

and are interspersed with rods, the number of which increases toward the margin of the retina. The precise function of these rods and cones is not clear; but it is a fact that the center of the fovea, where all elements except the cones and their associated cells practically disappear, is the seat of the most acute vision. As we withdraw from this spot, the acuteness of the visual perceptions rapidly decreases. The eye with normal vision, therefore, sees one part of everything it looks at best, and everything else worse, in proportion as it is removed from the point of maximum vision; and it is an invariable symptom of all abnormal conditions of the eyes, both functional and organic, that this central fixation is lost.

These conditions are due to the fact that when the sight is normal the sensitiveness of the fovea is normal, but when the sight is imperfect, from whatever cause, the sensitiveness of the fovea is lowered, so that the eye sees equally well, or even better, with other parts of the retina. Contrary to what is generally believed, the part seen best when the sight is normal is extremely small. The text-books say that at twenty feet an area having a diameter of half an inch can be seen with maximum vision, but anyone who tries at this distance to see every part of even the smallest letters of the Snellen test card—the diameter of which may be less than a quarter of an inch—equally well at one time will immediately become myopic. The fact is that the nearer the point of maximum vision approaches a mathematical point, which has no area, the better the sight.

The cause of this loss of function in the center of sight is mental strain; and as all abnormal conditions of the eyes, organic as well as functional, are accompanied by

Seeing without strain, the all-important factor in preserving normal and healthy sight. This is possible only through central fixation.

mental strain, all such conditions must necessarily be accompanied by loss of central fixation. When the mind is under a strain the eye usually goes more or less blind. The center of sight goes blind first, partially or completely, according to the degree of the strain, and if the strain is great enough the whole or the greater part of the retina may be involved. When the vision of the center of sight has been suppressed, partially or completely, the patient can no longer see the point which he is looking at best, but sees objects not regarded directly as well, or better, because the sensitiveness of the retina has now become approximately equal in every part, or is even better in the outer part than in the center. Therefore in all cases of defective vision the patient is unable to see best where he is looking.

This condition is sometimes so extreme that the patient may look as far away from an object as it is possible to see it, and yet see it just as well as when looking directly at it. In one case it had gone so far that the patient could see only with the edge of the retina on the nasal side. In other words, she could not see her fingers in front of her face, but could see them if held at the outer side of her eye. She had only a slight error of refraction, showing that while every error of refraction is accompanied by eccentric fixation, the strain which causes the one condition is different from that which produces the other. The patient had been examined by specialists in this country and Europe, who attributed her blindness to disease of the optic nerve or brain; but the fact that vision was restored by relaxation demonstrated that the condition had been due simply to mental strain.

Eccentric fixation, even in its lesser degrees, is so unnatural that great discomfort, or even pain, can be produced in a few seconds by trying to see every part of an

STRONG EYES

Look straight forward and try to clearly distinguish the smallest details of objects at a distance.

From Bernarr MacFadden's 1901 book *Strong Eyes*. Central-fixation was taught here and in the 1800's by Dr. Bates in his Medical Articles and practice. In 1918, 1919 to 1930 it was taught in his book and Better Eyesight magazine.

Notice in this old picture; the body is facing a little bit opposite the direction of the head and eyes. Usually the body turns completely in the same direction with the head and eyes when holding a conversation, looking at a object... Face the object the eyes look at for perfect central vision.

The posture in the picture is normal; sometimes only the head turns with the eyes. But, when the head, eyes continue to face a object; turn-align the entire body with the head and eyes. When the head, eyes' turn is larger; always turn the entire body with the head and eyes. This keeps the spine aligned and the body, neck, head, eyes and eye muscles relaxed, perfect central-fixation, eye movement 'shifting'.

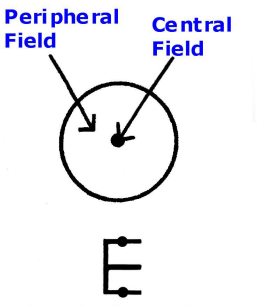
area three or four inches in extent at twenty feet, or even less, or an area of an inch or less at the near-point, equally well at one time, while at the same time the retinoscope will demonstrate that an error of refraction has been produced. This strain, when it is habitual, leads to all sorts of abnormal conditions and is, in fact, at the bottom of most eye troubles, both functional and organic. The discomfort and pain may be absent, however, in the chronic condition, and it is an encouraging symptom when the patient begins to experience them.

When the eye possesses central fixation it not only possesses perfect sight, but it is perfectly at rest and can be used indefinitely without fatigue. It is open and quiet; no nervous movements are observable; and when it regards a point at the distance the visual axes are parallel. In other words, there are no muscular insufficiencies. This fact is not generally known. The textbooks state that muscular insufficiencies occur in eyes having normal sight, but I have never seen such a case. The muscles of the face and of the whole body are also at rest, and when the condition is habitual there are no wrinkles or dark circles around the eyes.

In most cases of eccentric fixation, on the contrary, the eye quickly tires, and its appearance, with that of the face, is expressive of effort or strain. The ophthalmoscope[1] reveals that the eyeball moves at irregular intervals, from side to side, vertically or in other directions. These movements are often so extensive as to be manifest by ordinary inspection, and are sometimes sufficiently marked to resemble nystagmus.[2] Nervous move-

[1] A shorter movement can be noted when the observer watches the optic nerve with the ophthalmoscope than when he views merely the exterior of the eye.

[2] A condition in which there is a conspicuous and more or less rhythmic movement of the eyeball from side to side.



Look at the dot on the top of the E.
The dot is in the center of the visual field and is clearest. The dot on the bottom is in the peripheral field and is less clear.
Shift dot to dot seeing one dot clearest at a time.

Shift point to point (dot to dot) on the E seeing one small part (dot) clearest at a time in the center of the visual field. The central field moves with the eyes as the eyes shift dot to dot.

Stare at the point on the upper right notch of the C. Do not shift the eyes, eyes immobile, do not blink. Strain, tension, blur occurs. Now shift on the C part to part and experience relaxation and clear vision.

Remember and see the pillow clear with central fixation and shifting: Look at and see one corner of the pillow best at a time. Shift from corner to corner (dot to dot) seeing one corner at a time best, clearest in the center of the visual field. Shift part to part on any area of the pillow. The pillow is seen clear.

ments of the eyelids may also be noted, either by ordinary inspection, or by lightly touching the lid of one eye while the other regards an object either at the near-point or the distance. The visual axes are never parallel, and the deviation from the normal may become so marked as to constitute the condition of squint. Redness of the conjunctiva and of the margins of the lids, wrinkles around the eyes, dark circles beneath them and tearing are other symptoms of eccentric fixation.

Eccentric fixation is a symptom of strain, and is relieved by any method that relieves strain; but in some cases the patient is cured just as soon as he is able to demonstrate the facts of central fixation. When he comes to realize, through actual demonstration of the fact, that he does not see best where he is looking, and that when he looks a sufficient distance away from a point he can see it worse than when he looks directly at it, he becomes able, in some way, to reduce the distance to which he has to look in order to see worse, until he can look directly at the top of a small letter and see the bottom worse, or look at the bottom and see the top worse. The smaller the letter regarded in this way, or the shorter the distance the patient has to look away from a letter in order to see the opposite part indistinctly, the greater the relaxation and the better the sight. When it becomes possible to look at the bottom of a letter and see the top worse, or to look at the top and see the bottom worse, it becomes possible to see the letter perfectly black and distinct. At first such vision may come only in flashes. The letter will come out distinctly for a moment and then disappear. But gradually, if the practice is continued, central fixation will become habitual.

Most patients can readily look at the bottom of the

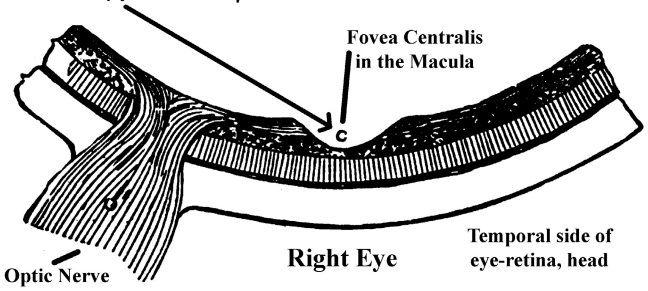
Central-Fixation; placing the central field on the object you are looking at. The central is the MOST clear, much clearer than 20/20 vision; 20/10, 20/5... Bates Method teachers practice central-fixation for perfect vision. Central-fixation does not mean to block out the rest of the visual field. The peripheral field also has many functions; being aware of the central and peripheral-all around you when crossing a 4 way street intersection, turning-looking left, right, forward, behind...; we cannot cover all this in a split second so we must also be aware of people, vehicles in the peripheral. The peripheral detects movement, light, black, white, gray and continues to function using its rods (light receptors that produce less clear vision but perform other things) in almost complete darkness when the cones (light receptors that produce perfect clear detailed vision and bright color) in the fovea centralis-central field and inner, middle peripheral turn off. (The military teaches to use the peripheral in the darkness when there is not enough light to activate the cones, central field.) There are no cones in the far outer peripheral. Only rods. The peripheral and central work with the balance system, coordination and other mind-body-eye-vision functions. The eyes-brain take in-use the central and peripheral. The peripheral field is naturally *less clear* due to it containing less cones, has many rods, and; these light receptors 'cones, rods' in the peripheral are under the top retina layers.

The central is always the most perfectly clear area of the visual field. The *many* cones in and around the central and the rods around the central are in a better placement in the retina layers, receive more light. So; face the object you want to see, place it in the central field and move the central on it. Everywhere you look is perfectly clear because the eyes and head turn together to face each object you look at-place it in the central field. Example; if a bird flys by in the outer right peripheral and you decide to look at it; the brain makes the eyes-head turn right, face it and immediately move 'shift' the central upon it from part to part. This occurs automatically. It is the normal function of the eyes and vision. Place the object you want to see in the central field for that most perfect, much clearer than 20/20 vision and brightest color. Shift and blink. Read about central-fixation, shifting and movement on the following pages.

big C and see the top worse; but in some cases it is not only impossible for them to do this, but impossible for them to let go of the large letters at any distance at which they can be seen. In these extreme cases it sometimes requires considerable ingenuity, first to demonstrate to the patient that he does not see best where he is looking, and then to help him to see an object worse when he looks away from it than when he looks directly at it. The use of a strong light as one of the points of fixation, or of two lights five or ten feet apart, has been found helpful, the patient when he looks away from the light being able to see it less bright more readily than he can see a black letter worse when he looks away from it. It then becomes easier for him to see the letter worse when he looks away from it. This method was successful in the following case:

A patient with vision of 3/200, when she looked at a point a few feet away from the big C, said she saw the letter better than when she looked directly at it. Her attention was called to the fact that her eyes soon became tired and that her vision soon failed when she saw things in this way. Then she was directed to look at a bright object about three feet away from the card, and this attracted her attention to such an extent that she became able to see the large letter on the test card worse, after which she was able to look back at it and see it better. It was demonstrated to her that she could do one of two things: look away and see the letter better than she did before, or look away and see it worse. She then became able to see it worse all the time when she looked three feet away from it. Next she became able to shorten the distance successively to two feet, one foot, and six inches, with a constant improvement in vision; and finally she

Just at the center of the posterior part of the retina, at a point corresponding to the posterior pole of the axis of vision, about 6 mm. towards the temporal side from the center of the optic nerve, is a yellow spot called the *macula lutea*, or *yellow spot of Sömmerring*. At the center of this spot is a depression known as the *fovea centralis* in which is found chiefly Jacob's membrane where the cones predominate, as seen in (*c*). At this point, the sense of vision is most acute.



became able to look at the bottom of the letter and see the top worse, or look at the top and see the bottom worse. With practice she became able to look at the smaller letters in the same way, and finally she became able to read the ten line at twenty feet. By the same method also she became able to read diamond type, first at twelve inches and then at three inches. By these simple measures alone she became able, in short, to see best where she was looking, and her cure was complete.

The highest degrees of eccentric fixation occur in the high degrees of myopia, and in these cases, since the sight is best at the near-point, the patient is benefited by practicing seeing worse at this point. The distance can then be gradually extended until it becomes possible to do the same thing at twenty feet. One patient with a high degree of myopia said that the farther she looked away from an electric light the better she saw it, but by alternately looking at the light at the near-point and looking away from it she became able, in a short time, to see it brighter when she looked directly at it than when she looked away from it. Later she became able to do the same thing at twenty feet, and then she experienced a wonderful feeling of relief. No words, she said, could adequately describe it. Every nerve seemed to be relaxed, and a feeling of comfort and rest permeated her whole body. Afterward her progress was rapid. She soon became able to look at one part of the smallest letters on the card and see the rest worse, and then she became able to read the letters at twenty feet.

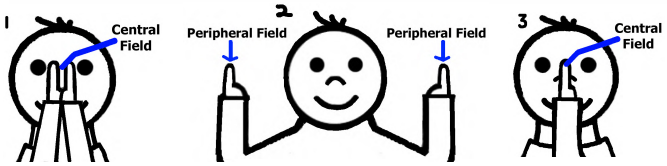
On the principle that a burnt child dreads the fire, some patients are benefited by consciously making their sight worse. When they learn, by actual demonstration of the facts, just how their visual defects are produced, they unconsciously avoid the unconscious strain which

causes them. When the degree of eccentric fixation is not too extreme to be increased, therefore, it is a benefit to patients to teach them how to increase it. When a patient has consciously lowered his vision and produced discomfort and even pain by trying to see the big C, or a whole line of letters, equally well at one time, he becomes better able to correct the unconscious effort of the eye to see all parts of a smaller area equally well at one time.

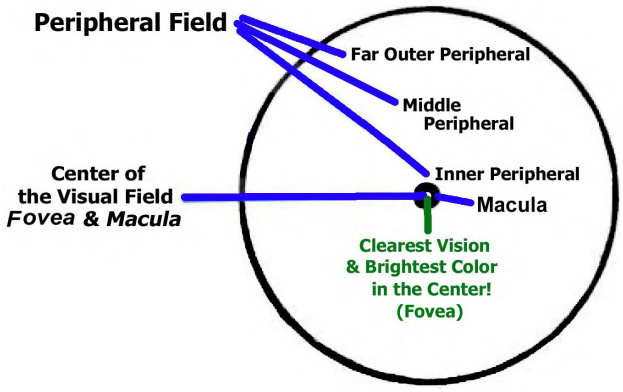
In learning to see best where he is looking it is usually best for the patient to think of the point not directly regarded as being seen less distinctly than the point he is looking at, instead of thinking of the point fixed as being seen best, as the latter practice has a tendency, in most cases, to intensify the strain under which the eye is already laboring. One part of an object is seen best only when the mind is content to see the greater part of it indistinctly, and as the degree of relaxation increases the area of the part seen worse increases, until that seen best becomes merely a point.

The limits of vision depend upon the degree of central fixation. A person may be able to read a sign half a mile away when he sees the letters all alike, but when taught to see one letter best he will be able to read smaller letters that he didn't know were there. The remarkable vision of savages, who can see with the naked eye objects for which most civilized persons require a telescope, is a matter of central fixation. Some people can see the rings of Saturn, or the moons of Jupiter, with the naked eye. It is not because of any superiority in the structure of their eyes, but because they have attained a higher degree of central fixation than most civilized persons do.

Not only do all errors of refraction and all functional



Retina's Field & Visual Field - Basic Diagram



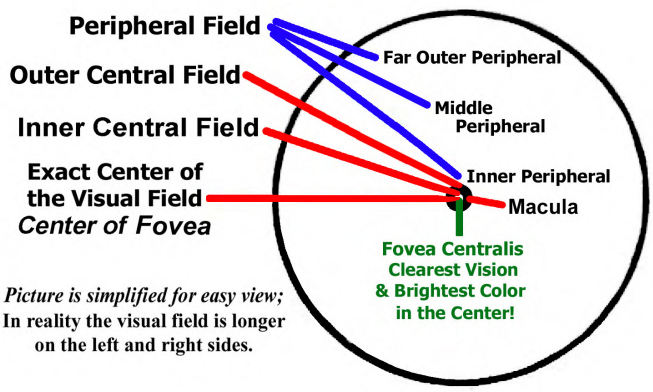
The central field is between the eyes, at eye level. The part of the object the eyes are looking at is seen best, clearest by placing it in the center of the visual field, using the fovea centralis in the center of the eyes' macula-retina. Let the eyes (*central field)* move; *shift* on the part. Blink, relax. The entire visual field moves as the eyes shift. The central field moves on the object you are looking directly at. Look at the trees, houses... in a scenery; shift object to object and part to part on objects. The pictures below show the placement of the fovea centralis and macula lutea (retina's central field) and the peripheral field of the eye's retina. These produce the central and peripheral areas of the visual field. See page 70 and 73.

The tiny white dot in the center of the circle is the fovea centralis, in the center of the retina. The center of the white dot is the center of the fovea centralis. It produces the *exact center of the visual field*, Central-Fixation, the visual field's most clearest-perfect fine detailed vision and best color. The small black circle around the white dot/fovea is the macula. There is also a inner central field; it's the area around, nearest to the center of the fovea/exact central, and the middle, outer area of the fovea (see picture; areas of the white dot around and away from the dot's center) and the inner, middle macula (inner and middle areas of the small black circle around the white dot). The outer central field is produced by the outer area of the macula. The retina's exact central field, inner central and outer central produce very clear vision, clearer than 20/20 with bright color in the center of the visual field. Vision gets clearer closest to the center of the fovea/ exact central field. The inner central field is almost as clear as the exact central. The *clearest vision-much clearer than 20/20 with the brightest color* is in the *exact central field* produced by the exact center of the fovea centralis (center of the white dot). The macula/fovea contain many cones (light receptors that produce perfect clarity and bright color). Cones increase, are concentrated, and are close to the surface of the retina in the fovea, especially the fovea's center. The exact center of the fovea contains only cones. It has no rods. The exact center of the fovea (exact center of the visual field) moves on small, tiny and microscopic parts of objects seeing tiny details perfectly clear at all distances - close, middle and far. The inner peripheral field of the retina near the macula produces a good level of clarity. The middle and far outer peripheral field produce less clarity, color due to that area having less cones, contains more rods (light receptors that produce lower clarity), and the receptors are down/under more retina layers, get less light.

Experiment; Place the pointer fingers of the left and right hands up in front of the face, 1 ft. from the eyes. Move the fingers apart < > outward into the left and right far outer peripheral field. Look straight ahead. Note the fingers' clarity, detail and color are imperfect. Move the fingers inward > < closer to the eyes and see the clarity, detail, color improve as they move closer to the central field. Place the fingers between the eyes, in the central field. The fingers are clear, have good detail, bright color. Look at one finger, place it in the central field. The finger, *precisely* the part of the finger the eyes are looking directly at, in the exact central field is most perfectly clear, with best detail and brightest color. The other parts, other finger not in the exact central are not as perfectly clear, detailed and color is not as bright. Try it on 2 dots . . The dot the eyes are looking directly at, the *exact central is on* is most clear. Try it with the dots closer .. Try it on one dot . Shift part to part on the tiny dot. Relax. When looking at a part; that tiny part is in the exact central field and is most clear. Blink and let the eyes (exact central) move around on the dot. All areas of the central and peripheral field move when the eyes shift. The central field moves onto the part of the object you are looking directly at, moving it's exact central field on smaller and tiny parts of that part.

The eyes are always shifting, moving the central field to a new object, part and smaller parts keeping everything the eyes look at perfectly clear. Shift from object to object, part to part, tiny part to tiny part on objects for perfect vision.

The Retina's Field and Visual Field Produced by the Retina



Picture is simplified for easy view; In reality the visual field is longer on the left and right sides.

The eyes shift continually-moving the macula-fovea (central field) onto each object, part you look at. The entire visual field appears clear. In reality; the part of the object you are looking directly at, the fovea's center (exact central field) is moving on is clearest. The eye/fovea continues to shift even when looking at a very small part of a object. Blink and shift for clear eyesight. Practice looking at tiny parts of objects using the exact central field. Shift *without effort.* Then; let the eyes/vision do this *on their own*. Do nothing. Just relax and let the eyes shift. Blink. The picture on the bottom < left shows the basic structure of the retina's field and it's visual field. The picture on the right > shows a more detailed view of the retina's field, visual field and areas of the fovea, macula.

disturbances of the eye disappear when it sees by central fixation, but many organic conditions are relieved or cured. I am unable to set any limits to its possibilities. I would not have ventured to predict that glaucoma, incipient cataract and syphilitic iritis could be cured by central fixation; but it is a fact that these conditions have disappeared when central fixation was attained. Relief was often obtained in a few minutes, and, in rare cases, this relief was permanent. Usually, however, a permanent cure required more prolonged treatment. Inflammatory conditions of all kinds, including inflammation of the cornea, iris, conjunctiva, the various coats of the eyeball and even the optic nerve itself, have been benefited by central fixation after other methods had failed. Infections, as well as diseases caused by protein poisoning and the poisons of typhoid fever, influenza, syphilis and gonorrhœa, have also been benefited by it. Even with a foreign body in the eye there is no redness and no pain so long as central fixation is retained.

Since central fixation is impossible without mental control, central fixaton of the eye means central fixation of the mind. It means, therefore, health in all parts of the body, for all the operations of the physical mechanism depend upon the mind. Not only the sight, but all the other senses—touch, taste, hearing and smell—are benefited by central fixation. All the vital processes—digestion, assimilation, elimination, etc.—are improved by it. The symptoms of functional and organic diseases are relieved. The efficiency of the mind is enormously increased. The benefits of central fixation already observed are, in short, so great that the subject merits further investigation.

In the eyechart chapter at the end of this book, central-fixation is also taught by practicing shifting *point to point* on a object to see tiny parts, fine details clear; move from one tiny part (point) on the object to another, then another, another... Blink. *Central-Fixation does not mean that you see only one point. It means that the eyes see one part best; the part (point) you are looking directly at-the eyes' center of the fovea is presently on. The eyes are always moving to a new point, so; the point that is clearest 'seen best' continually changes to the newest point the attention is on.* Avoid using force-effort to shift *point to point* on objects. Don't get stuck on a point. Avoid becoming tense, immobile. Practice looking at small-tiny objects, tiny parts, shifting *point to point* seeing that perfect central-fixation, 'imitating the eyes-fovea's function', but do it with *relaxation and flowing continual movement.* Never stay on a point longer than a fraction of a second. Move on the object; face the object and shift on it, then move to another object, shift on it, then go to another... Blink. When we look at something; the central field faces it and immediately moves on it. The fovea in the center of the eyes' retina shifts point to point automatically. You don't have to think about it. Imitating the fovea's natural point to point function, when done with relaxation brings very clear vision. Then; just shift part to part, object to object and let the eyes-fovea do the *point to point* moving on tiny parts thing *completely natural, on their own.* You will find yourself automatically looking at small, tiny parts as your mental-visual attention is drawn to things that interest you. This perfect central-fixation with shifting is a automatic function of the eyes-vision. Just let the vision flow, sweeping over the letters on the eyechart. The central will move to the letter-part you look at with it's fovea (exact central) moving quickly over tiny parts of the letter *exactly where you are looking, moving.* Every letter you move over is seen clear.

Face what you want to see and keep moving on it. The head moves with the eyes. Blink. The eyes-brain see-register objects in the central and peripheral field. The peripheral is outward, around the central. The exact central will always be the most clear. It moves continually on the object, parts you look at. It moves from object to object, part to part making everything you look at perfectly clear. The peripheral also moves; when looking at the letters on the eyechart; the exact central field is moving upon the parts you are facing-looking at as the eyes 'vision' pass over them, and; the outer central, and sometimes inner peripheral field (depending on the letter's size) passes over parts of the letter near the exact central, outward-around it. Let it all flow easy, naturally.

The outer central and inner peripheral near where you are looking is almost as clear as the exact central. The middle and far outer peripheral is less clear. Test this; look at a clock 50 feet away. Its clear. Look 1 foot to the side of it; now the clock is not perfectly clear because its in your peripheral field. Farther and farther out into the peripheral, the vision is more unclear. This is why the eyes place the exact central (most clear area) where you are looking.

Areas of the middle, outer peripheral also move upon the letters on the chart, but not the letter the eyes are looking directly at. (Unless the letter is large; then some parts of the middle, possibly outer peripheral will move on parts of the letter the eyes are not looking directly at, areas outward-farther away from the exact central. Distance from the chart also affects this). The eyes-brain register the entire visual field as you place-move the central field on objects, parts of objects. All the letters are dark black and perfectly clear as you sweep over them. Dr. Bates teaches to avoid diffusion-eccentric fixation; avoid *trying to see all letters on the chart 'letters in the central and peripheral' perfectly and equally clear at the same time.* Diffusion causes strain and blur. When the eyes shift from letter to letter and part to part on the letters, moving the central on them; the eyes-brain see one letter perfect, clearest at a time *as the central moves over it.* This is central-fixation with shifting, this is relaxing, it keeps the vision clear. The fovea, retina, entire visual system, all parts-functions working in harmony. Bring this relaxation, flowing movement, effortless vision with perfect clarity to the small letters on the eyechart. (See final book pages.)

Learn more about central-fixation, see pictures, YouTube videos at the end of this book, in the PDF E-books and Dr. Bates Better Eyesight Magazine.

CHAPTER XII

PALMING

ALL the methods used in the cure of errors of refraction are simply different ways of obtaining relaxation, and most patients, though by no means all, find it easiest to relax with their eyes shut. This usually lessens the strain to see, and in such cases is followed by a temporary or more lasting improvement in vision.

Most patients are benefited merely by closing the eyes; and by alternately resting them for a few minutes or longer in this way and then opening them and looking at the Snellen test card for a second or less, flashes of improved vision are, as a rule, very quickly obtained. Some temporarily obtain almost normal vision by this means; and in rare cases a complete cure has been effected, sometimes in less than an hour.

But since some light comes through the closed eyelids, a still greater degree of relaxation can be obtained, in all but a few exceptional cases, by excluding it. This is done by covering the closed eyes with the palms of the hands (the fingers being crossed upon the forehead) in such a way as to avoid pressure on the eyeballs. So efficacious is this practice, which I have called "palming," as a means of relieving strain, that we all instinctively resort to it at times, and from it most patients are able to get a considerable degree of relaxation.

But even with the eyes closed and covered in such a way as to exclude all the light, the visual centers of

The bottom of the hands' palms rest on the cheekbones. First; Place the left hand over the left eye. Then place the right hand over the right eye. The right hand's fingers are placed on top of the left hand's fingers. The left and right hands' fingers cross on the center of the forehead, (a energy center - *Chakra).* More palming directions are on pg; 113, 125, 207, 303, 399 and in other chapters.

How palming is done for relaxing the strain on the eyes.

For Comfortable Palming, Best Result;

The elbows are placed on a pillow on a table to keep the hands, arms, shoulders, neck and head relaxed, free of fatigue-tension and to keep the spine, neck, head straight, aligned. This also relaxes the eyes.

Imagine something happy; walk through a park (Truckee River-Park, Reno Nevada). See objects as in real life, in color, in motion; wind blowing the tree leaves, grass, kids playing, running with their dog, climbing the trees, flying a homemade kite, throwing a ball. Hear them. See and smell a flower- lilac, rose, dandelion. Touch the flowers, grass, blow on a ripe cattail and watch the fluffy parts float in the air, blue sky. See a small brook or the Truckee river flowing, water sparkling. Hear it, feel the water; run down to the shore, put your hand in the water, walk into it, sit in the clean yellow sand in the 1 to 3 foot currents. Swim in the deeper areas. Walk on the shore, feel the wind blowing, warmth of the bright sun, soft grass on your bare feet. Eat something yummy from the many stores, food carts. Walk downtown Reno and see the colored neon signs, Native Americans in heritage clothing, gear.

Open the eyes. Relaxation brings clear vision. Next; palm, eyes closed. Imagine perfect, dark black. A black object, wall, page or just the color black in front of the eyes. Open the eyes, see clear with relaxed mind.

the brain may still be disturbed, the eye may still strain to see; and instead of seeing a field so black that it is impossible to remember, imagine, or see anything blacker, as one ought normally to do when the optic nerve is not subject to the stimulation of light, the patients will see illusions of lights and colors ranging all the way from an imperfect black to kaleidoscopic appearances so vivid that they seem to be actually seen with the eyes. The worse the condition of the eyesight, as a rule, the more numerous, vivid and persistent these appearances are. Yet some persons with very imperfect sight are able to palm almost perfectly from the beginning, and are, therefore, very quickly cured. Any disturbance of mind or body, such as fatigue, hunger, anger, worry or depression, also makes it difficult for patients to see black when they palm, persons who can see it perfectly under ordinary conditions being often unable to do so without assistance when they are ill or in pain.

It is impossible to see a perfect black unless the eyesight is perfect, because only when the eyesight is perfect is the mind at rest; but some patients can without difficulty approximate such a black nearly enough to improve their eyesight, and as the eyesight improves the deepness of the black increases. Patients who fail to see even an approximate black when they palm state that instead of black they see streaks or floating clouds of gray, flashes of light, patches of red, blue, green, yellow, etc. Sometimes instead of an immovable black, clouds of black will be seen moving across the field. In other cases the black will be seen for a few seconds and then some other color will take its place. The different ways in which patients can fail to see black when their eyes are closed and covered are, in fact, very numerous and often very peculiar.

Daydreaming; Avoid staring when you daydream. Staring (immobile eyes, freezing the vision on a object) causes tension, strain and blur. Let the eyes do their natural movements when daydreaming. Daydreaming, using the memory, imagination with relaxation is natural and healthy. The eyes will naturally move with your internal thoughts, mental pictures, and will also shift on the physical scenery, objects you are looking at. Remember when you were a child; imagining something happy as you sit on branches up high in your favorite tree, looking at the people on the street below, the other trees, wind blowing the branches, leaves, the clouds in the sky... Imagining you are a secret agent or a favorite super hero from the comic books hiding in the tree, flying from tree to tree, seeing the colorful birds, friendly squirrels, little brown chipmunks, a dragonfly with shiny blue wings. You have hideouts where you store and use your lighted color changing, electric/magnetic magic sword of truth, red levitation/protection cape and other tools for fun and to defend yourself and your planet. Imagine flying over the green fields, forests and jungles, the deserts, ocean and along the rivers. Walk on the mountains, stand secure like a goat on a rocky cliff, explore the caves, slide down the mountain on the snow, walk on the green grass through the fields below, fly along the highway into the city in the sunlight and at night under the moon and stars. Fly toward or beside the moon when it is near the horizon. Notice as you daydream; eye movements occur with your thoughts, mental pictures, the internal vision moves (shifts) on the internal pictures. And; the eyes (vision) also shifts on the objects (trees, houses, clouds...) in your physical environment, where you are facing as you daydream. Memory, imagination, movement and relaxation work together and strengthen eachother. All improve the clarity of vision. When the eyes move freely; staring, strain and unclear vision are prevented. Thinking something positive, fun, happy, interesting things relaxes the mind, body, eyes and the eye muscles. The eyes are aligned with their foveas focusing and moving together on the same point, eyes are in normal shape, focus of light rays is perfect, the vision is clear.

Palming relaxes the mind, body and eyes. If you have acquired the incorrect habit of staring; prevent it by palming the eyes when you are daydreaming, or palm before daydreaming. Note the closed eyes continue to move with the internal thoughts, images. Relaxed eyes shift easy, automatically *on their own*. Open the eyes and see the vision has improved. Palming prevents staring when the eyes are closed and when open. Objects are clear when the eyes shift the vision on them. Mental (memory-imagination) pictures are clear when the mental (internal) vision shifts on them. Much of vision, its functions occur in the brain. The eyes are a part of the brain. A relaxed mind = clear vision. The mind and soul look through and reflect in the eyes. It is normal to think, fantasize (daydream) with the eyes open or closed (with shifting). Do not use effort to shift the eyes. Let eye movement occur spontaneously. If objects in your environment, things you are looking at interfere with something you are thinking about (figuring the solution to a question...); close the eyes with or without palming. The conscious and subconscious mind works with the memory, imagination. Drifting into sleep brings the answer to a question, science, math, artistic... formula, creation you are working on. It will be revealed in a dream or after you awaken. Some religions state that every life, act, thought, emotion, object... throughout all time is recorded, preserved in the spiritual world. The brain, spirit/soul has access to this during sleep and also in deep levels of relaxation. Deep and dynamic 'active' relaxation.

Some patients have been so impressed with the vividness of the colors which they imagined they saw that no amount of argument could, or did, convince them that they did not actually see them with their eyes. If

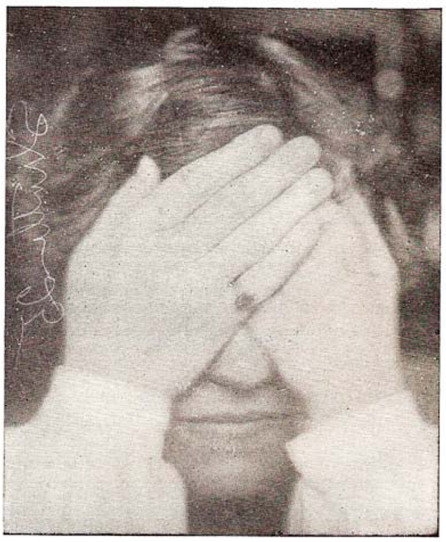


Fig. 42. Palming

This is one of the most effective methods of obtaining relaxation of all the sensory nerves.

other people saw bright lights or colors, with their eyes closed and covered, they admitted that these things would be illusions; but what they themselves saw under the same conditions was reality. They would not believe, until they had themselves demonstrated the truth, that

Palming - Dr. Bates states; Do not *try hard* to imagine and see black. Relax and think pleasant thoughts, let the mind drift from one happy thought to another, another... Perfect black will appear naturally when the mind is completely relaxed. Dr. Bates noticed that some patients strain their mind by trying hard, using effort to imagine and see black, thus preventing relaxation and appearance of black. By imagining, remembering happy things, in motion, color *like a movie in the mind*; relaxation and clear eyesight are obtained. The memory and imagination also improve and this greatly improves relaxation, brain function with the eyes and the eyesight. Imagining colors or colored sparkling, moving light energy also brings relaxation and clear eyesight. If you can easily imagine black; do it, you will see it. This helps; look at a dark black object; large black paper on the wall, a black cloth or a black cat... before closing/covering the eyes. Then; remember, imagine it with the eyes closed. Shift on it.

When palming and remembering or imagining a event, scenery, objects; shift on them (same as the eyes do when they are open). Note that the eyes move with the mental vision as it shifts about on an imagined scenery, objects, moving objects... This relaxes the eyes, mind, body and improves the eyesight. Open the eyes and note the clarity of things is improved or perfect. *The mind-eyes work together. Relax and move.*

When the mind is strained (and also when the body, neck, head, eyes, eye muscles are stiff/tense); the visual system can become tense and cause moving colors, shapes and imperfect black to appear in the visual field in front of the closed eyes. It appears like the colors are on or in a black or imperfect black background. Massage, good posture, body movement, eye shifting (the vision moving on objects, scenery), happy thoughts and gently imagining, remembering perfect black brings relaxation, enables the eyes to see pure, dark black when palming. The moving colors, shapes disappear. (Colors produced by strain are not the same as the beneficial imagined colors, moving colored light that produces relaxation.)

Crossing the hands' fingers, placing them on the center of the forehead activates and integrates the left and right brain hemispheres and activates a main chi/spirit energy center, the *Third Eye Chakra* on the forehead/between the eyebrows; the inner vision, visualization, psychic power, intuition, is magnetic. The eyes and brain also have energy, magnetism. The head chakras work with the natural sense of location-navigation, earth's fields, magnetic north. Like birds, animals have. Another main chakra is on the top of the head. There are many energy points on the face, head. Palming activates energy flow between the third eye chakra and the *Crown* chakra on/above the top of the head. Connection to the spirit, 'heaven'. Spiritual light described by Jesus, many religions. The throat, heart and other chakras are activated, energy flows in-through them up along the spine, neck, head and above the head. Energy strengthens, moves inside and outside the body. The aura is strong, a protective field. As the spirit grows, the crown chakra strengthens, is the *halo* of saints, angels. Crossing the fingers on the forehead enables perfect, complete relaxation; tension in the fingers, hands, wrists, arms, shoulders, chest/collarbones, neck, head and eye muscles is prevented. Test it; try palming without crossing the fingers and feel the muscles pull. Next; cross the fingers on the forehead and feel the muscles release and relax. Avoid twisting the wrists. See page 123, 133 and 399 for more palming pictures with directions for correct/relaxed placement of the fingers, hands, arms, elbows and correct body, head posture.

their illusions were due to an imagination beyond their control.

Successful palming in these more difficult cases usually involves the practice of all the methods for improving the sight described in succeeding chapters. For reasons which will be explained in the following chapter, the majority of such patients may be greatly helped by the memory of a black object. They are directed to look at such an object at the distance at which the color can be seen best, close the eyes and remember the color, and repeat until the memory appears to be equal to the sight. Then they are instructed, while still holding the memory of the black, to cover the closed eyes with the palms of the hands in the manner just described. If the memory of the black is perfect, the whole background will be black. If it is not, or if it does not become so in the course of a few seconds, the eyes are opened and the black object regarded again.

Many patients become able by this method to see black almost perfectly for a short time; but most of them, even those whose eyes are not very bad, have great difficulty in seeing it continuously. Being unable to remember black for more than from three to five seconds, they cannot see black for a longer time than this. Such patients are helped by central fixation. When they have become able to see one part of a black object darker than the whole, they are able to remember the smaller area for a longer time than they could the larger one, and thus become able to see black for a longer period when they palm. They are also benefited by mental shifting (see Chapter XV) from one black object to another, or from one part of a black object to another. It is impossible to see, remember, or imagine anything, even for as much as

a second, without shifting from one part to another, or to some other object and back again; and the attempt to do so always produces strain. Those who think they are remembering a black object continuously are unconsciously comparing it with something not so black, or

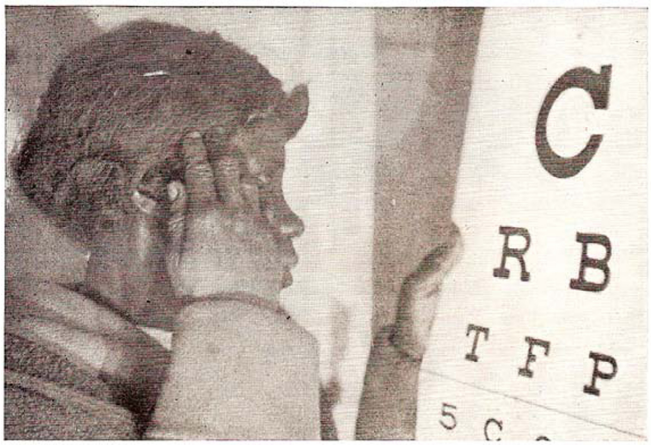


Fig. 43

Patient with atrophy of the optic nerve gets flashes of improved vision after palming.

else its color and its position are constantly changing. It is impossible to remember even such a simple thing as a period perfectly black and stationary for more than a fraction of a second. When shifting is not done unconsciously patients must be encouraged to do it consciously. They may be directed, for instance, to remember successively a black hat, a black shoe, a black velvet dress, a black plush curtain, or a fold in the black dress or the

black curtain, holding each one not more than a fraction of a second. Many persons have been benefited by remembering all the letters of the alphabet in turn perfectly black. Others prefer to shift from one small black object, such as a period or a small letter, to another, or to swing such an object in a manner to be described later (see Chapter XV).

In some cases the following method has proved successful: When the patient sees what he thinks is a perfect black, let him remember a piece of starch on this background, and on the starch the letter F as black as the background. Then let him let go of the starch and remember only the F, one part best, on the black background. In a short time the whole field may become as black as the blacker part of the F. The process can be repeated many times with a constant increase of blackness in the field.

In one case a patient who saw grey so vividly when she palmed that she was positive she saw it with her eyes, instead of merely imagining it, was able to obliterate nearly all of it by first imagining a black C on the grey field, then two black C's, and finally a multitude of overlapping C's.

It is impossible to remember black perfectly when it is not seen perfectly. If one sees it imperfectly, the best one can do is to remember it imperfectly. All persons, without exception, who can see or read diamond type at the near-point, no matter how great their myopia may be, or how much the interior of the eye may be diseased, become able, as a rule, to see black with their eyes closed and covered more readily than patients with hypermetropia or astigmatism; because, while myopes cannot see anything perfectly, even at the near-point, they see

better at that point than persons with hypermetropia or astigmatism do at any distance. Persons with high degrees of myopia, however, often find palming very difficult, since they not only see black very imperfectly, but, because of the effort they are making to see, cannot remember it more than one or two seconds. Any other condition of the eye which prevents the patient from seeing black perfectly also makes palming difficult. In some cases black is never seen as black, appearing to be grey, yellow, brown, or even bright red. In such cases it is usually best for the patient to improve his sight by other methods before trying to palm. Blind persons usually have more trouble in seeing black than those who can see, but may be helped by the memory of a black object familiar to them before they lost their sight. A blind painter who saw grey continually when he first tried to palm became able at last to see black by the aid of the memory of black paint. He had no perception of light whatever and was in terrible pain; but when he succeeded in seeing black the pain vanished, and when he opened his eyes he saw light.

Even the imperfect memory of black is useful, for by its aid a still blacker black can be both remembered and seen; and this brings still further improvement. For instance, let the patient regard a letter on the Snellen test card at the distance at which the color is seen best, then close his eyes and remember it. If the palming produces relaxation, it will be possible to imagine a deeper shade of black than was seen, and by remembering this black when again regarding the letter it can be seen blacker than it was at first. A still deeper black can then be imagined, and this deeper black can, in turn, be transferred to the letter on the test card. By continuing this

process a perfect perception of black, and hence perfect sight, are sometimes very quickly obtained. The deeper the shade of black obtained with the eyes closed, the more easily it can be remembered when regarding the letters on the test card.

The longer some people palm the greater the relaxation they obtain and the darker the shade of black they are able both to remember and see. Others are able to palm successfully for short periods, but begin to strain if they keep it up too long.

It is impossible to succeed by effort, or by attempting to "concentrate" on the black. As popularly understood, concentration means to do or think one thing only; but this is impossible, and an attempt to do the impossible is a strain which defeats its own end. The human mind is not capable of thinking of one thing only. It can think of one thing best, and is only at rest when it does so; but it cannot think of one thing only. A patient who tried to see black only and to ignore the kaleidoscopic colors which intruded themselves upon her field of vision, becoming worse and worse the more they were ignored, actually went into convulsions from the strain, and was attended every day for a month by her family physician before she was able to resume the treatment. This patient was advised to stop palming, and, with her eyes open, to recall as many colors as possible, remembering each one as perfectly as possible. By thus taking the bull by the horns and consciously making the mind wander more than it did unconsciously, she became able, in some way, to palm for short periods.

Some particular kinds of black objects may be found to be more easily remembered than others. Black plush of a high grade for instance, proved to be an optimum

(see Chapter XVIII) with many persons as compared with black velvet, silk, broadcloth, ink and the letters on the Snellen test card, although no blacker than these other blacks. A familiar black object can often be remembered more easily by the patient than those that

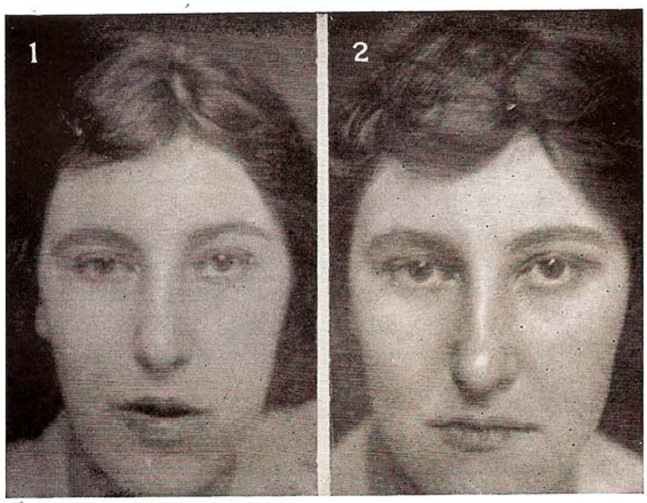


Fig. 44

No. 1.—Owing to paralysis of the seventh nerve on the right side, resulting from a mastoid operation on the right ear, the patient is unable to close her lips.

No. 2.—After palming and remembering a perfectly black period she became able not only to close the lips, but to whistle. The cure was permanent.

are less so. A dressmaker, for instance, was able to remember a thread of black silk when she could not remember any other black object.

When a black letter is regarded before palming the patient will usually remember not only the blackness of the letter, but the white background as well. If the memory of the black is held for a few seconds, however, the background usually fades away and the whole field becomes black.

Patients often say that they remember black perfectly when they do not. One can usually tell whether or not this is the case by noting the effect of palming upon the vision. If there is no improvement in the sight when the eyes are opened, it can be demonstrated, by bringing the black closer to the patient, that it has not been remembered perfectly.

Although black is, as a rule, the easiest color to remember, for reasons explained in the next chapter, the following method sometimes succeeds when the memory of black fails: Remember a variety of colors—bright red, yellow, green, blue, purple, white especially—all in the most intense shade possible. Do not attempt to hold any of them more than a second. Keep this up for five or ten minutes. Then remember a piece of starch about half an inch in diameter as white as possible. Note the color of the background. Usually it will be a shade of black. If it is, note whether it is possible to remember anything blacker, or to see anything blacker with the eyes open. In all cases when the white starch is remembered perfectly the background will be so black that it will be impossible to remember anything blacker with the eyes closed, or to see anything blacker with them open.

When palming is successful it is one of the best methods I know of for securing relaxation of all the sensory nerves, including those of sight. When perfect relaxa-

tion is gained in this way, as indicated by the ability to see a perfect black, it is completely retained when the eyes are opened, and the patient is permanently cured. At the same time pain in the eyes and head, and even in other parts of the body, is permanently relieved. Such cases are very rare, but they do occur. With a lesser

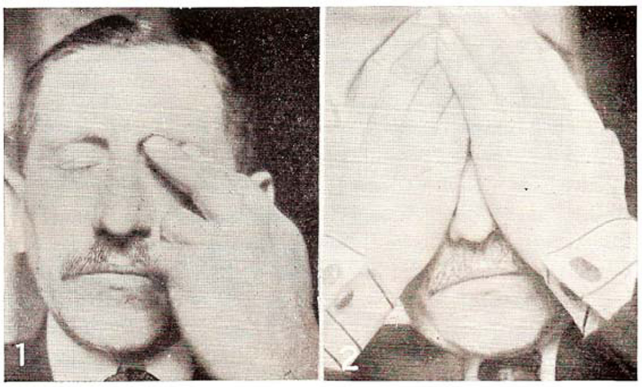
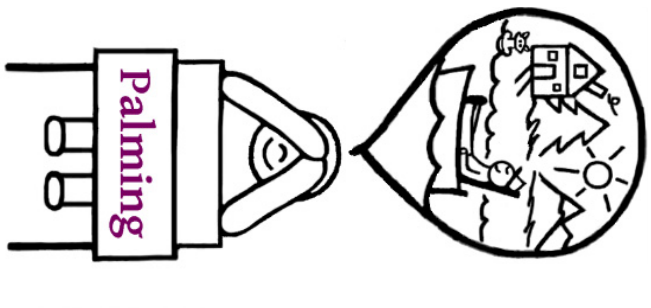


Fig 45

Fig. 1.—Patient with absolute glaucoma of the right eye. He had suffered agonizing pain for six months and had no perception of light. He was photographed when testing the tension of his eyeball, which he found to be perfectly hard.

Fig. 2.—The patient is palming and remembering a perfectly black period. After half an hour the eyeball became soft, the pain ceased, and the patient became able to see the light. After three years there was no return of the glaucoma.

degree of relaxation much of it is lost when the eyes are opened, and what is retained is not held permanently. In other words, the greater the degree of the relaxation produced by palming the more of it is retained when the



Palm and remember, imagine a pleasant object, scenery and shift throughout the scene; from object to object, part to part on objects. See objects in motion, action like a real life movie in the mind, in color, clear. Relax.

eyes are opened and the longer it lasts. If you palm perfectly, you retain, when you open your eyes, all of the relaxation that you gain, and you do not lose it again. If you palm imperfectly, you retain only part of what you gain and retain it only temporarily—it may be only for a few moments. Even the smallest degree of relaxation is useful, however, for by means of it a still greater degree may be obtained.

Patients who succeed with palming from the beginning are to be congratulated, for they are always cured very quickly. A very remarkable case of this kind was that of a man nearly seventy years of age with compound hypermetropic astigmatism and presbyopia, complicated by incipient cataract. For more than forty years he had worn glasses to improve his distant vision, and for twenty years he had worn them for reading and desk work. Because of the cloudiness of the lens, he had now become unable to see well enough to do his work, even with glasses; and the other physicians whom he had consulted had given him no hope of relief except by operation when the cataract was ripe. When he found palming helped him, he asked:

"Can I do that too much?"

"No," he was told. "Palming is simply a means of resting your eyes, and you cannot rest them too much."

A few days later he returned and said:

"Doctor, it was tedious, very tedious; but I did it."

"What was tedious?" I asked.

"Palming," he replied. "I did it continuously for twenty hours."

"But you couldn't have kept it up for twenty hours continuously," I said incredulously. "You must have stopped to eat."

Robert A. Monroe - A scientist, author. He teaches deep relaxation and improvement of the brain, body and spirit.

Three Books; *Journeys Out Of The Body*, *Far Journeys* and *Ultimate Journey*. Training on DVD, Audio and in person courses. Left and right brain hemisphere activation-integration-synchronization, active and deep relaxation in Beta and into the Alpha, Theta, Delta brain wave states. Relaxes the mind and body. Improves memory and imagination. Color and other visualization. Chi, spirit... energy strengthening, moving and control. Strengthens the Aura, a protective energy field. Use of a energy bar tool and energy balloon. Controlling and moving colored light energy! Spiritual growth, spirit (Astral) travel and other practices. Removal of destructive emotions, thought patterns. All improve the eyesight and the brain's function! Experience Out of Body Spirit Travel and spirit-mind-body growth by using the *original method* Robert Monroe and his family, friends, partners created during his lifetime. Recommend; Hemi-Sync - Discovery-Wave 1 in DVD and 5 other packets/waves; Threshold, Freedom, Adventure, Exploring and Prospecting. Each packet contains 6 levels of training. Also recommend; Human Plus series.
The methods teach, improve a variety of skills; Spiritual and body healing, brain functions; math, science, art, music, hobbies...

The Monroe Institute
365 Roberts Mountain Road
Faber, Virginia 22938
(434) 361-1500
Toll Free (866) 881-3440
http://www.monroeinstitute.org

Free Training Videos, Audios on the website; https://www.monroeinstitute.org/gallery-bob-monroe (Also; the resources link.)
YouTube; https://www.youtube.com/watch?v=4MHBM8prTP8

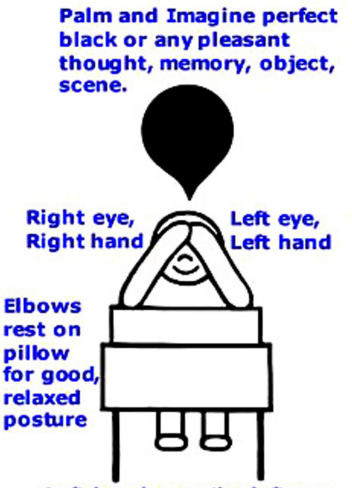
Books by Dion Fortune provide more training on this subject and additional *protection* of the mind, aura, spirit/soul and physical body, including during Astral Travel; *Psychic Self-Defense* and *The Secrets of Dr. Taverner*. Wrote many other books.

And then he related that from four o'clock in the morning until twelve at night he had eaten nothing, only drinking large quantities of water, and had devoted practically all of the time to palming. It must have been tedious, as he said, but it was also worth while. When he looked at the test card, without glasses, he read the bottom line at twenty feet. He also read fine print at six inches and at twenty. The cloudiness of the lens had become much less, and in the center had entirely disappeared. Two years later there had been no relapse.

Although the majority of patients are helped by palming, a minority are unable to see black, and only increase their strain by trying to get relaxation in this way. In most cases it is possible, by using some or all of the various methods outlined in this chapter, to enable the patient to palm successfully; but if much difficulty is experienced, it is usually better and more expeditious to drop the method until the sight has been improved by other means. The patient may then become able to see black when he palms, but some never succeed in doing it until they are cured.

Palm and remember, shift on a favorite object: flower, colorful stone, jewelry, tree, land, old house... Improving the memory, imagination of clear mental pictures relaxes the mind, body, eyes and improves the vision.

Palm and imagine drifting down a river. See objects in color, clear, motion. Movement of the boat, water, wind, birds flying, sun shining, sparkling on the river, animals walking on the shore, colorful dragonflies... Imagine all the senses; touch, warmth of sun, feel the breeze, hear the water, birds, wind, taste your favorite drink...



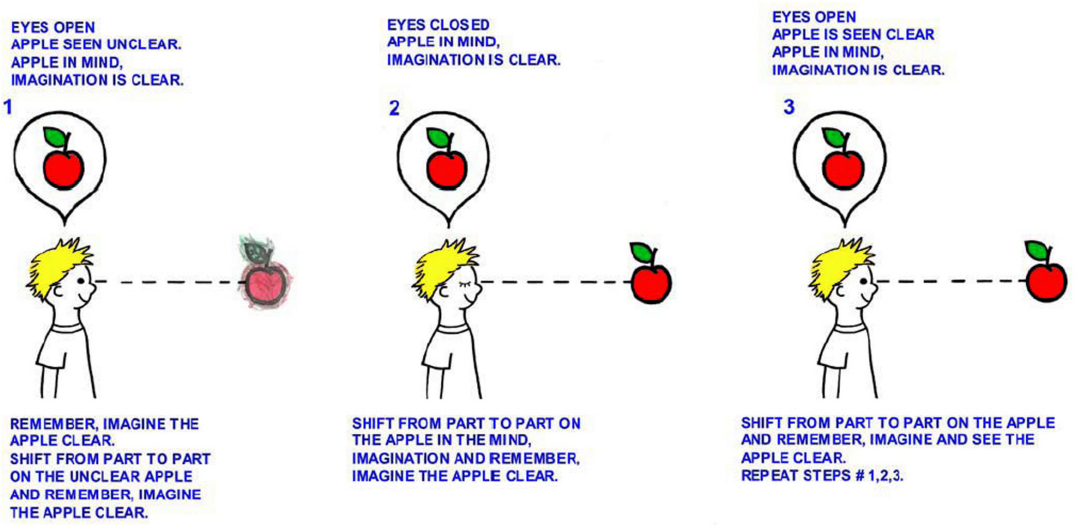
It is not necessary to imagine and see black. Just relax and let the mind drift from one pleasant thought to another. Then black will appear on its own. Seeing black brings perfect relaxation of mind, body and eyes. Pleasant thoughts, memories will also do this.

CHAPTER XIII

MEMORY AS AN AID TO VISION

WHEN the mind is able to remember perfectly any phenomenon of the senses, it is always perfectly relaxed. The sight is normal, if the eyes are open; and when they are closed and covered so as to exclude all the light, one sees a perfectly black field —that is nothing at all. If you can remember the ticking of a watch, or an odor or a taste perfectly, your mind is perfectly at rest, and you will see a perfect black when your eyes are closed and covered. If your memory of a sensation of touch could be equal to the reality, you would see nothing but black when the light was excluded from your eyes. If you were to remember a bar of music perfectly when your eyes were closed and covered, you would see nothing but black. But in the case of any of these phenomena it is not easy to test the correctness of the memory, and the same is true of colors other than black. All other colors, including white, are altered by the amount of light to which they are exposed, and are seldom seen as perfectly as it is possible for the normal eye to see them. But when the sight is normal, black is just as black in a dim light as in a bright one. It is also just as black at the distance as at the near-point, while a small area is just as black as a large one, and, in fact, appears blacker. Black is, moreover, more readily

REMEMBERING, IMAGINING OBJECTS CLEAR IMPROVES FUNCTION OF THE BRAIN WITH THE EYES AND CLARITY OF VISION.



available than any other color. There is nothing blacker than printer's ink, and that is practically ubiquitous. By means of the memory of black, therefore, it is possible to measure accurately one's own relaxation. If the color is remembered perfectly, one is perfectly relaxed. If it is remembered almost perfectly, one's relaxation is almost perfect. If it cannot be remembered at all, one has very little or no relaxation.

By means of simultaneous retinoscopy, these facts can be readily demonstrated. An absolutely perfect memory is very rare, so much so that it need hardly be taken into consideration; but a practically perfect memory, or what might be called normal, is attainable by every one under certain conditions. With such a memory of black, the retinoscope shows that all errors of refraction are corrected. If the memory is less than normal, the contrary will be the case. If it fluctuates, the shadow of the retinoscope will fluctuate. The testimony of the retinoscope is, in fact, more reliable than the statements of the patient. Patients often believe and state that they remember black perfectly, or normally, when the retinoscope indicates an error of refraction; but in such cases it can usually be demonstrated by bringing the test card to the point at which the black letters can be seen best, that the memory is not equal to the sight. That the color cannot be remembered perfectly when the eyes and mind are under a strain, the reader can easily demonstrate by trying to remember it when making a conscious effort to see—by staring, partly closing the eyes, frowning, etc.—or while trying to see all the letters of a line equally well at one time. It will be found that it either cannot be remembered at all under these conditions, or that it is remembered very imperfectly.

When the two eyes of a patient are different, it has been found that the difference can be exactly measured by the length of time a black period can be remembered, while looking at the Snellen test card, with both eyes open, and with the better eye closed. A patient with normal vision in the right eye and half-normal vision in the left could, when looking at the test card with both eyes open, remember a period for twenty seconds continuously; but with the better eye closed, it could be remembered only ten seconds. A patient with half-normal vision in the right eye and one-quarter normal in the left could remember a period twelve seconds with both eyes open, and only six seconds with the better eye closed. A third patient, with normal sight in the right eye and vision of one-tenth in the left, could remember a period twenty seconds with both eyes open, and only two seconds when the better eye was closed. In other words, if the right eye is better than the left, the memory is better when the right eye is open than when only the left eye is open, the difference being in exact proportion to the difference in the vision of the two eyes.

In the treatment of functional eye troubles this relationship between relaxation and memory is of great practical importance. The sensations of the eye and of the mind supply very little information as to the strain to which both are being subjected, those who strain most often suffering the least discomfort; but by means of his ability to remember black the patient can always know whether he is straining or not, and is able, therefore, to avoid the conditions that produce strain. Whatever method of improving his sight the patient is using, he is advised to carry with him constantly the memory of a small area of black, such as a period, so that

he may recognize and avoid the conditions that produce strain, and in some cases patients have obtained a complete cure in a very short time by this means alone. One advantage of the method is that it does not require a test card, for at any hour of the day or night, whatever the patient may be doing, he can always place himself in the conditions favorable to the perfect memory of a period.

The condition of mind in which a black period can be remembered cannot be attained by any sort of effort. The memory is not the cause of the relaxation, but must be preceded by it. It is obtained only during moments of relaxation, and retained only as long as the causes of strain are avoided; but how this is accomplished cannot be fully explained, just as many other psychological phenomena cannot be explained. We only know that under certain conditions that might be called favorable a degree of relaxation sufficient for the memory of a black period is possible, and that, by persistently seeking these conditions, the patient becomes able to increase the degree of the relaxation and prolong its duration, and finally becomes able to retain it under unfavorable conditions.

For most patients palming provides the most favorable conditions for the memory of black. When the strain to see is lessened by the exclusion of the light, the patient usually becomes able to remember a black object for a few seconds or longer, and this period of relaxation can be prolonged in one of two ways. Either the patient can open his eyes and look at a black object by central fixation at the distance at which it can be seen best, and at which the eyes are, therefore, most relaxed, or he can shift mentally from one black object to

another, or from one part of a black object to another. By these means, and perhaps also through other influences that are not clearly understood, most patients become able, sooner or later, to remember black for an indefinite length of time with their eyes closed and covered.

With the eyes open and looking at a blank surface without trying consciously to see, the unconscious strain is lessened so that the patient becomes able to remember a black period, and all errors of refraction, as demonstrated by the retinoscope, are corrected. This result has been found to be invariable, and so long as the surface remains blank and the patient does not begin to remember or imagine things seen imperfectly, the memory and the vision may be retained. But if, with the improved vision, details upon the surface begin to come out, or if the patient begins to think of the test card, which he has seen imperfectly, the strain to see will return and the period will be lost.

When looking at a surface on which there is nothing particular to see, distance makes no difference to the memory, because the patient can always look at such a surface, no matter where it is, without straining to see it. When looking at letters, or other details, however, the memory is best at the point at which the patient's sight is best, because at that point the eyes and mind are more relaxed than when the same letters or objects are regarded at distances at which the vision is not so good. By practicing central fixation at the most favorable distance, therefore, and using any other means of improving the vision which are found effectual, the memory of the period may be improved, in some cases, very rapidly.

If the relaxation gained under these favorable condi-

tions is perfect, the patient will be able to retain it when the mind is conscious of the impressions of sight at unfavorable distances. Such cases are, however, very rare. Usually the degree of relaxation gained is markedly imperfect, and is, therefore, lost to a greater or less degree when the conditions are unfavorable, as when letters or objects are being regarded at unfavorable distances. So disturbing are the impressions of sight under these circumstances, that just as soon as details begin to come out at distances at which they have not previously been seen, the patient usually loses his relaxation, and with it the memory of the period. In fact, the strain to see may even return before he has had time to become conscious of the image on his retina, as the following case strikingly illustrates:

A woman of fifty-five who had myopia of fifteen diopters, complicated with other conditions which made it impossible for her to see the big C at more than one foot, or to go about, either in her house or on the street, without an attendant, became able, when she looked at a green wall without trying to see it, to remember a perfectly black period and to see a small area of the wall-paper at the distance as well as she could at the near-point. When she had come close to the wall, she was asked to put her hand on the door-knob, which she did without hesitation. "But I don't see the knob," she hastened to explain. As a matter of fact she had seen it long enough to put her hand on it; but as soon as the idea of seeing it was suggested to her she lost the memory of the period, and with it her improved vision, and when she again tried to find the knob she could not do so.

When a period is remembered perfectly while a let-

ter on the Snellen test card is being regarded, the letter improves, with or without the consciousness of the patient; because it is impossible to strain and relax at the same time, and if one relaxes sufficiently to remember the period, one must also relax sufficiently to see the letter, consciously or unconsciously. Letters on either side of the one regarded, or on the lines above and below it, also improve. When the patient is conscious of seeing the letters, this is very distracting, and usually causes him, at first, to forget the period; while with some patients, as already noted, the strain may return even before the letters are consciously recognized.

Thus patients find themselves on the horns of a dilemma. The relaxation indicated by the memory of a period improves their sight, and the things they see with this improved vision cause them to lose their relaxation and their memory. It is very remarkable to me how the difficulty is ever overcome, but some patients are able to do it in five minutes or half an hour. With others the process is long and tedious.

There are various ways of helping patients to deal with this situation. One is to direct them to remember the period while looking a little to one side of the test card, say a foot or more; then to look a little nearer to it, and finally to look between the lines. In this way they may become able to see the letters in the eccentric field without losing the period; and when they can do this they may become able to go a step farther, and look directly at a letter without losing control of their memory. If they cannot do it, they are told to look at only one part of a letter—usually the bottom—or to see or imagine the period as part of the letter, while noting that the rest of the letter is less black and less distinct than the part

directly regarded. When they can do this they become able to remember the period better than when the letter is seen all alike. If the letter is seen all alike, the perfect memory of the period is always lost. The next step is to ask the patient to note whether the bottom of the letter is straight, curved, or open, without losing the period on the bottom. When he can do this, he is asked to do the same with the sides and top of the letter, still holding the period on the bottom. Usually when the parts can be observed separately in this way, the whole letter can be seen without losing the memory of the period; but it occasionally happens that this is not the case, and further practice is needed before the patient can become conscious of all sides of the letter at once without losing the period. This may require moments, hours, days, or months. In one case the following method succeeded:

The patient, a man with fifteen diopters of myopia, was so much disturbed by what he saw when his vision had been improved by the memory of a period that he was directed to look away from the Snellen test card, or whatever object he was regarding, when he found the letters or other details coming out; and for about a week he went around persistently dodging his improved sight. As his memory improved, it became more and more difficult for him to do this, and at the end of the week it was impossible. When he looked at the bottom line at a distance of twenty feet he remembered the period perfectly, and when asked if he could see the letters, he replied:

"I cannot help but see them."

Some patients retard their recovery by decorating the scenery with periods as they go about during the day,

Imagine the black letter is composed of hundreds of small black periods. Look at one period at a time, shifting (moving) from period to period. Or; shift 'move' a imaginary period upon the letter. Move it to one part at a time; shift the attention upon the letter 'moving the tiny period' from one tiny black part to another tiny black part, then another, another... Blink. See the letter flash clear.

Note that the period you are looking at is darkest black, clearest. You might look at a period for only a fraction of a second before moving to a new period, but; during that *fraction of a second;* the period the eyes, central field is on is darkest black and clearest. Central-Fixation.

instead of simply remembering a period in their minds. This does them no good, but is, on the contrary, a cause of strain. The period can be imagined perfectly and with benefit as forming part of a black letter on the test card, because this merely means imagining that one sees one part of the black letter best; but it cannot be imagined perfectly on any surface which is not black, and to attempt to imagine it on such surfaces defeats the end in view.

The smaller the area of black which the patient is able to remember, the greater is the degree of relaxation indicated; but some patients find it easier, at first, to remember a somewhat larger area, such as one of the letters on the Snellen test card with one part blacker than the rest. They may begin with the big C, then proceed to the smaller letters, and finally get to a period. It is then found that this small area is remembered more easily than the larger ones, and that its black is more intense. Instead of a period, some patients find it easier to remember a colon, with one period blacker than the other, or a collection of periods, with one blacker than all the others, or the dot over an i or j. Others, again, prefer a comma to a period. In the beginning most patients find it helpful to shift consciously from one of these black areas to another, or from one part of such an area to another, and to realize the swing, or pulsation, produced by such shifting (see Chapter XV); but when the memory becomes perfect, one object may be held continuously, without conscious shifting, while the swing is realized only when attention is directed to the matter.

Although black is, as a rule, the best color to remember, some patients are bored or depressed by it, and prefer to remember white or some other color. A

Look at, shift on the white paper around and inside the black letters to relax the mind and eyes. There is nothing to see on the white, so it prevents effort to see. Relaxation occurs.

The white also acts as light, it increases activation of the light receptors 'cones, rods' in the eyes' retina. Relaxation and light receptor activation produce clear vision.

See the Halos; The contrast of the white and black produces the illusion of a white glow on the white paper around and inside letters; the white area nearest to the edge of the black letter appears brighter, whiter, it 'glows'. A halo of bright white surrounds the letter.

The white glow also appears as a glowing thin white line directly under and on top of sentences, next to the edge of the black letters. Halos appear when the eyes relax and move.

The eyes and brain function best when there is contrast, dimension, shape, texture. Seeing the halos brings relaxation and clear vision. Shift on and move left, right along the halos.

Then; move back to the sentences; the black letters are dark black and clear. Shift on the letters, blink. Read the sentences. The clarity enables the brain to understand the words, subject being read; the brain moves the eyes-vision along the sentences quickly, easy. Mental images, thoughts about the subject also produce eye movements. Movement maintains clarity.

Return to the white page, halos occasionally to reinforce relaxation. Halos; pg. 326, 420.

See the halo around other objects. Shift to the blue sky above a mountain and see it's halo flash on the sky along the edge of the mountain. See it above trees; look at the tree tops, then shift to a area of the sky above-near the tree tops. Shift on-along the glow, then on-along the tree tops.

Spiritualists state there is a energy field 'aura' in, around, emitting from people, objects. It's color; white, blue... pertains to the object's substance, the person's health, thoughts, spirit level.

familiar object, or one with pleasant associations, is often easier to remember than one which has no particular interest. One patient was cured by the memory of a yellow buttercup, and another was able to remember the opal of her ring when she could not remember a period. Whatever the patient finds easiest to remember is the best to remember, because the memory can never be perfect unless it is easy.

When the memory of the period becomes habitual, it is not only not a burden, but is a great help to other mental processes. Then mind, when it remembers one thing better than all other things, possesses central fixation, and its efficiency is thereby increased, just as the efficiency of the eye is increased by central fixation. In other words, the mind attains its greatest efficiency when it is at rest, and it is never at rest unless one thing is remembered better than all other things. When the mind is in such a condition that a period is remembered perfectly, the memory for other things is improved.

A high-school girl reports that when she was unable to remember the answer to a question in an examination, she remembered the period, and the answer came to her. When I cannot remember the name of a patient, I remember a period—and, behold, I have it! A musician who had perfect sight and could remember a period perfectly, had a perfect memory for music; but a musician with imperfect sight who could not remember a period could play nothing without his notes, only gaining that power when his sight and visual memory had become normal. In some exceptional cases, the strain to see letters on the Snellen test card has been so terrific that patients have said that they not only could not remem-

ber a period while they were looking at them, but could not remember even their own names.

Patients may measure the accuracy of their memory of the period, not only by comparing it with the sight, but by the following tests:

When the memory of the period is perfect it is instantaneous. If a few seconds or longer are necessary to obtain the memory, it is never perfect.

A perfect memory is not only instantaneous, but continuous.

When the period is remembered perfectly perfect sight comes instantaneously. If good vision is obtained only after a second or two, it can always be demonstrated that the memory of the period is imperfect and the sight also.

The memory of a period is a test of relaxation. It is the evidence by which the patient knows that his eyes and mind are at rest. It may be compared to the steam-gauge of an engine, which has nothing to do with the machinery, but is of great importance in giving information as to the ability of the mechanism to do its work. When the period is black one knows that the engine of the eye is in good working order. When the period fades, or is lost, one knows that it is out of order, until a cure is effected. Then one does not need a period, or any other aid to vision, just as the engineer does not need a steam-gauge when the engine is going properly. One patient who had gained telescopic and microscopic vision by the methods presented in this book said, in answer to an inquiry from some one interested in investigating the treatment of errors of refraction without glasses, that he had not only done nothing to prevent a relapse, but had even forgotten how he was cured.

Suggestions to Patients

By EMILY C. LIERMAN

(1) Palm in the morning while in bed.
(2) Take sun treatment for twenty minutes or longer every day.
(3) Mentally or physically, keep up that pendulum-like motion.
(4) After sitting in the sun, hold the small card and flash the white spaces.
(5) What you do not see immediately, do not worry about.
(6) While practicing with the Seven Truths of Normal Sight, always move the card slowly from side to side as you hold it six or eight inches from your eyes.
(7) To induce sleep when suffering from headache or nervous strain, close your eyes, remember the small F or T of the ten line of the test card and imagine it is moving slightly, about one-quarter of an inch, either up and down or to the left and right.
(8) There is a right way and a wrong way to blink the eyes while practicing. Children like to hold up their two hands about ten or twelve inches apart, looking first at one hand and then at the other. In this way one blinks when looking at the right hand and again when looking at the left hand. The head should turn in the same direction with the eyes.
(9) Near-sighted patients sometimes get along faster in the cure of their eyes by using two similar test cards at the same time while practicing. One card is held in the hand while the other is five or ten feet away. The patient looks at a letter up close and imagines he sees the same letter on the distant card. Then the patient closes his eyes and imagines that letter perfectly. Having seen it perfectly up close, he becomes able by practice to see it just as well on the distant card.

A Case Report

(Report of a man, 63 years old, who has worn glasses for a great many years. He improved his own vision merely by following directions. Others can do the same.)

I WILL be 63 years old in July and have not worn lenses since reading "Perfect Sight Without Glasses"; it will be two years the latter part of next July.

I have had monocular vision all my life, congenital convergent squint of left eye producing what has always been called "partial blindness from disuse." I could always see parts of everything but nothing distinctly; enough to get around if I closed my good eye, but could never see to read any printed matter with it.

At first I could not see the big "C" at any distance with the left eye. Now I can see its whole outline at about six inches and all of the letters on line ten at three or four feet.

In scanning even fine print I can now discern lines and spaces and almost distinguish the letters by holding it close up.

I should add that I have not been at all diligent nor faithful in using Dr. Bates' methods and am surprised at the results obtained by me in spite of that fact. With more devotion I am sure I will get better results.

One patient, a woman of 25 or 30, had worn glasses seventeen years. She was myopic with astigmatism, seeing about half the distance with the left eye as with the right. She had frequent headaches, could not go to the "movies" without great distress. She spent $300 or more on glasses, had no comfort with them and could not see well with or without them.

She was induced to buy Dr. Bates' book last March. She laid aside her glasses and began to work according to the method, wholly by herself, with most satisfactory results.

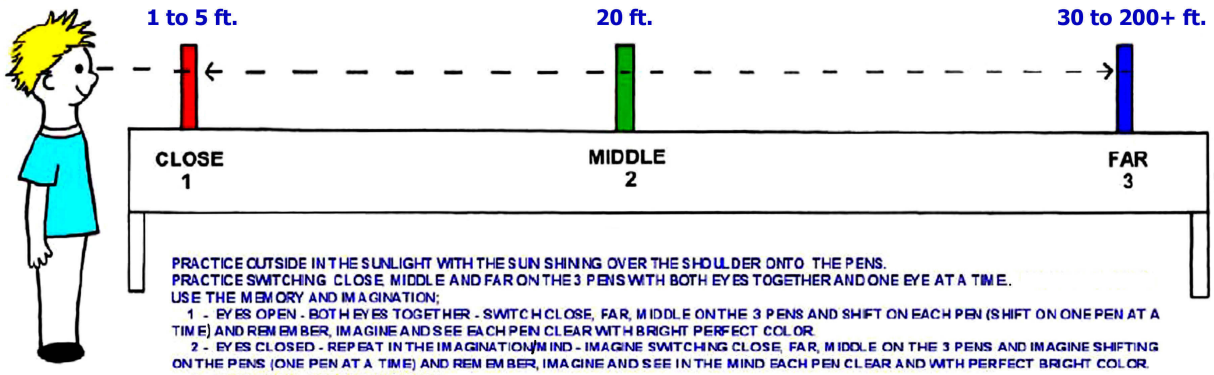
Very gratefully yours,
Fred W. Morris, D.O.,
Ridgewood, N. J.

The reply was unsatisfactory to the inquirer, but is quoted to illustrate the fact that when a patient is cured he does not need to do anything consciously in order to stay cured, although the treatment can always be continued with benefit, since even supernormal vision can be improved.

Shifting on Close and Far Objects keeps the eyesight clear at all distances.
See picture below; 'Switching' on the Three Pens in a Row.
More pictures at the end of the book.

SWITCH BACK AND FORTH; CLOSE, MIDDLE, FAR ON THREE PENS FOR CLEAR VISION AT ALL DISTANCES

DIRECTIONS; PLACE THREE COLORED PENS (OR POPSICLE STICKS) UPRIGHT INTO A CARDBOARD BOX, IN A STRAIGHT LINE AT CLOSE, MIDDLE AND FAR DISTANCES.
THE 3 PENS ARE IN THE CENTER OF THE VISUAL FIELD, BETWEEN THE EYES, AT EYE LEVEL.
RED, GREEN AND BLUE ARE THE MAIN COLORS OF THE SUNS LIGHT SPECTRUM. COMBINATIONS OF RED, GREEN, BLUE CREATES OTHER COLORS.
THE CONES IN THE EYES RETINA DETECT RED, GREEN, BLUE AND ALL OTHER COLORS.
RED ACTIVATES THE LEFT BRAIN HEMISPHERE AND CLEAR CLOSE VISION.
BLUE ACTIVATES THE RIGHT BRAIN HEMISPHERE AND CLEAR DISTANT (FAR) VISION.
GREEN ACTIVATES AND INTEGRATES BOTH LEFT AND RIGHT BRAIN HEMISPHERES AND CLEAR CLOSE AND DISTANT VISION.
ALL 3 COLORS ACTIVATE CLEAR MIDDLE DISTANCE VISION.
ACTIVATING AND INTEGRATING THE LEFT AND RIGHT BRAIN HEMISPHERES PRODUCES EQUALLY CLEAR PERFECT VISION IN THE LEFT AND RIGHT EYES AT ALL DISTANCES CLOSE, MIDDLE, FAR.
SWITCHING ON ANY OBJECTS; CLOSE, FAR, CLOSE, FAR AND TO THE MIDDLE DISTANCE ACTIVATES AND INTEGRATES THE LEFT AND RIGHT BRAIN HEMISPHERES AND CLEAR VISION AT ALL DISTANCES. SWITCHING ON THE RED, BLUE AND GREEN PENS INCREASES ACTIVATION AND INTEGRATION THE LEFT AND RIGHT BRAIN HEMISPHERES AND CLARITY OF VISION.

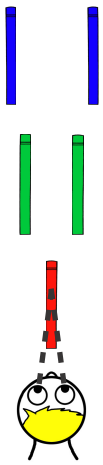


PRACTICE OUTSIDE IN THE SUNLIGHT WITH THE SUN SHINING OVER THE SHOULDER ONTO THE PENS.
PRACTICE SWITCHING CLOSE, MIDDLE AND FAR ON THE 3 PENS WITH BOTH EYES TOGETHER AND ONE EYE AT A TIME.
USE THE MEMORY AND IMAGINATION;
1 - EYES OPEN - BOTH EYES TOGETHER - SWITCH CLOSE, FAR, MIDDLE ON THE 3 PENS AND SHIFT ON EACH PEN (SHIFT ON ONE PEN AT A TIME) AND REMEMBER, IMAGINE AND SEE EACH PEN CLEAR WITH BRIGHT PERFECT COLOR.
2 - EYES CLOSED - REPEAT IN THE IMAGINATION/MIND - IMAGINE SWITCHING CLOSE, FAR, MIDDLE ON THE 3 PENS AND IMAGINE SHIFTING ON THE PENS (ONE PEN AT A TIME) AND REMEMBER, IMAGINE AND SEE IN THE MIND EACH PEN CLEAR AND WITH PERFECT BRIGHT COLOR.
3 - EYES OPEN - REPEAT NUMBER 1.

4 - ONE EYE AT A TIME - REPEAT NUMBER 1, 2, 3 WITH ONE EYE AT A TIME; LEFT EYE (RIGHT EYE COVERED WITH PATCH AND OPEN UNDER THE PATCH) - SWITCH, SHIFT ON THE 3 PENS AND REMEMBER, IMAGINE AND SEE THE PENS CLEAR AND WITH PERFECT BRIGHT COLOR WITH THE EYE OPEN, CLOSED, OPEN.
REPEAT WITH THE RIGHT EYE (LEFT EYE COVERED WITH PATCH AND OPEN UNDER THE PATCH).
REPEAT WITH LEFT EYE AGAIN, THEN RIGHT, LEFT, RIGHT.
IF VISION IS LESS CLEAR IN ONE EYE - PRACTICE WITH THAT EYE A LITTLE LONGER.
WHEN USING ONE EYE; KEEP THE PEN BETWEEN THE EYES, AT EYE LEVEL, CENTER OF THE VISUAL FIELD.

5 - END BY PRACTICING WITH BOTH EYES TOGETHER AGAIN - STEPS 1,2,3.

PRACTICE WITH THE PENS PLACED AT A VARITY OF DISTANCES FOR CLEAR VISION AT ALL DISTANCES.



Picture on the < left shows what the boy sees; how the pens appear when he is looking at the red #1 close pen with both eyes; The red pen shows 1 single image.
The green and blue pens appear double.
Next, look at the green pen; The green is now single. The red and blue are double. Look at the blue pen; The blue is single. The red and green are double.
Shift on the pen you are looking at. Blink.
The head and pen are straight-upright. Not tilted.
If correct images do not appear; close the eyes and imagine they appear correct. Open the eyes, shift on the pens. Repeat.
Shift, switch on the 3 pens in any order with; Both eyes together. Then; One eye at a time. If one eye's vision is less clear; practice 20 to 30 seconds extra with that eye. Then 5 - 10 seconds with the clearest vision eye again to keep the left and right eyes' vision balanced. End with; Both eyes together again.
(There are no double pen images when using one eye.)
When using both eyes together, and *all* 3 pens are placed far at *about 21 to 23 feet and farther (50, 200+ f*eet); there are no double images of pens when looking at any of the 3 pens.
Objects at about 20-19 ft. and closer appear double. If looking at objects about 20-19 ft. and closer; close and far objects appear double. (The object you are looking directly at is always single.)

The same effect as shown on page 228, 411 is seen when switching, shifting on the 3 pens above ^ ; Pens the eyes are not looking at appear double, in the peripheral field, on the left and right side of the pen the eyes are looking directly at. (*Exception*; if all 3 pens are far; at about 21-23 feet and farther; pens do not appear double when looking at any of the 3 pens.)
Seeing the image indicates the brain, left & right eyes are functioning correct, have equal vision.
See the Plain Switching and 2 Secret Switching practices on pg. 409+ for fast improvement of the eyesight. Hidden by many eye doctors, high priced natural vision teachers because it works, the patient often needs only one to three short classes.

The book assembler has added extra original and modern natural eyesight practices and pictures in larger size in the free E-books and at the end of this book; see Switching on 7 pens, eyecharts, sunlight...

CHAPTER XIV

IMAGINATION AS AN AID TO VISION

WE see very largely with the mind, and only partly with the eyes. The phenomena of vision depend upon the mind's interpretation of the impression upon the retina. What we see is not that impression, but our own interpretation of it. Our impressions of size, color, form and location can be demonstrated to depend upon the interpretation by the mind of the retinal picture. The moon looks smaller at the zenith than it does at the horizon, though the optical angle is the same and the impression on the retina may be the same, because at the horizon the mind unconsciously compares the picture with the pictures of surrounding objects, while at the zenith there is nothing to compare it with. The figure of a man on a high building, or on the topmast of a vessel, looks small to the landsman; but to the sailor it appears to be of ordinary size, because he is accustomed to seeing the human figure in such positions.

Persons with normal vision use their memory, or imagination, as an aid to sight; and when the sight is imperfect it can be demonstrated, not only that the eye itself is at fault, but that the memory and imagination are impaired, so that the mind adds imperfections to the imperfect retinal image. No two persons with normal sight will get the same visual impressions from the same object; for their interpretations of the retinal picture will differ as much as their individualities differ, and

Memory

By W. H. BATES, M.D.

When the sight is normal, the memory is perfect. The color and background of the letters or other objects seen, are remembered perfectly, instantaneously, and continuously.

ONE of the quickest cures of imperfect sight has been gained through the use of the memory. When the memory is perfect, the eyes at once become normal with normal vision. A perfect memory changes the elongated eyeball of myopia into the shorter length of the normal eye. No matter how high a degree of myopia one may have, when he has a perfect memory of some one thing, he is no longer myopic, but has normal eyes with normal vision.

An imperfect memory or an imperfect imagination may produce organic changes in the eyeball. The organic changes, which are present in many diseases of the eye, have been relieved with the aid of a perfect memory. In some cases the vision has been reduced to perception of light from scars on the front part of the eyeball. Perfect memory brings about the absorption of such opacities. A perfect memory has cured these obstinate cases.

Conical cornea is a very serious disease. Neither operation nor the use of drugs relieves or cures it. A perfect memory gives instant relief, the curvature of the cornea becomes normal, and the patient obtains normal vision.

when the sight is imperfect the interpretation is far more variable. It reflects, in fact, the loss of mental control which is responsible for the error of refraction. When the eye is out of focus, in short, the mind is also out of focus.

According to the accepted view most of the abnormalities of vision produced when there is an error of refraction in the eye are sufficiently accounted for by the existence of that error. Some are supposed to be due to diseases of the brain or retina. Multiple images are attributed to astigmatism, though only two can be legitimately accounted for in this way, while some patients state that they see half a dozen or more, and many persons with astigmatism do not see any. It can easily be demonstrated, however, that the inaccuracy of the focus accounts for only a small part of these results; and since they can all be corrected in a few seconds through the correction, by relaxation, of the error of refraction, it is evident that they cannot be due to any organic disease.

If we compare the picture on the glass screen of the camera when the camera is out of focus with the visual impressions of the mind when the eye is out of focus, there will be found to be a great difference between them. When the camera is out of focus it turns black into grey, and blurs the outlines of the picture; but it produces these results uniformly and constantly. On the screen of the camera an imperfect picture of a black letter would be equally imperfect in all parts, and the same adjustment of the focus would always produce the same picture. But when the eye is out of focus the imperfect picture which the patient imagines that he sees is always changing, whether the focus changes or

not. There will be more grey on one part than on another, and both the shade and the position of the grey may vary within wide limits in a very short space of time. One part of the letter may appear grey and the rest black. Certain outlines may be seen better than others, the vertical lines, perhaps, appearing black and the diagonal grey, and vice versa. Again, the black may be changed into brown, yellow, green, or even red, transmutations impossible to the camera. Or there may be spots of color, or of black, on the grey, or on the white openings. There may also be spots of white, or of color, on the black.

When the camera is out of focus the picture which it produces of any object is always slightly larger than the image produced when the focus is correct; but when the eye is out of focus the picture which the mind sees may be either larger or smaller than it normally would be. To one patient the big C at ten feet appeared smaller than at either twenty feet or four inches. To some it appears larger than it actually is at twenty feet, and to others it seems smaller.

When the human eye is out of focus the form of the objects regarded by the patient frequently appears to be distorted, while their location may also appear to change. The image may be doubled, tripled, or still further multiplied, and while one object, or part of an object may be multiplied other objects or parts of objects in the field of vision may remain single. The location of these multiple images is sometimes constant and at others subject to continual change. Nothing like this could happen when the camera is out of focus.

If two cameras are out of focus to the same degree, they will take two imperfect pictures exactly alike. If

two eyes are out of focus to the same degree, similar impressions will be made upon the retina of each; but the impressions made upon the mind may be totally unlike, whether the eyes belong to the same person or to different persons. If the normal eye looks at an object through glasses that change its refraction, the greyness and blurring produced are uniform and constant; but when the eye has an error of refraction equivalent to that produced by the glasses, these phenomena are non-uniform and variable.

It is fundamental that the patient should understand that these aberrations of vision—which are treated more fully in a later chapter—are illusions, and not due to a fault of the eyes. When he knows that a thing is an illusion he is less likely to see it again. When he becomes convinced that what he sees is imaginary it helps to bring the imagination under control; and since a perfect imagination is impossible without perfect relaxation, a perfect imagination not only corrects the false interpretation of the retinal image, but corrects the error of refraction.

Imagination is closely allied to memory, although distinct from it. Imagination depends upon the memory, because a thing can be imagined only as well as it can be remembered. You cannot imagine a sunset unless you have seen one; and if you attempt to imagine a blue sun, which you have never seen, you will become myopic, as indicated by simultaneous retinoscopy. Neither imagination nor memory can be perfect unless the mind is perfectly relaxed. Therefore when the imagination and memory are perfect, the sight is perfect. Imagination, memory and sight are, in fact, coincident. When one is perfect, all are perfect, and when

one is imperfect, all are imperfect. If you imagine a letter perfectly, you will see the letter and other letters in its neighborhood will come out more distinctly, because it is impossible for you to relax and imagine you see a perfect letter and at the same time strain and actually see an imperfect one. If you imagine a perfect period on the bottom of a letter, you will see the letter perfectly, because you cannot take the mental picture of a perfect period and put it on an imperfect letter. It is possible, however, as pointed out in the preceding chapter, for sight to be unconscious. In some cases patients may imagine the period perfectly, as demonstrated by the retinoscope, without being conscious of seeing the letter; and it is often some time before they are able to be conscious of it without losing the period.

When one treats patients who are willing to believe that the letters can be imagined, and who are content to imagine without trying to see, or compare what they see with what they imagine, which always brings back the strain, very remarkable results are sometimes obtained by the aid of the imagination. Some patients at once become able to read all the letters on the bottom line of the test card after they become able to imagine that they see one letter perfectly black and distinct. The majority, however, are so distracted by what they see when their vision has been improved by their imagination that they lose the latter. It is one thing to be able to imagine perfect sight of a letter, and another to be able to see the letter and other letters without losing control of the imagination.

In myopia the following method is often successful:

First look at a letter at the point at which it is seen best. Then close the eyes and remember it. Repeat

until the memory is almost as good as the sight at the near-point. With the test card at a distance of twenty feet, look at a blank surface a foot or more to one side of it, and again remember the letter. Do the same at six inches and at three inches. At the last point note the appearance of the letters on the card—that is, in the eccentric field. If the memory is still perfect, they will appear to be a dim black, not grey, and those nearest the point of fixation will appear blacker than those more distant. Gradually reduce the distance between the point of fixation and the letter until able to look straight at it and imagine that it is seen as well as it is remembered. Occasionally it is well during the practice to close and cover the eyes and remember the letter, or a period, perfectly black. The rest and mental control gained in this way are a help in gaining control when one looks at the test card.

Patients who succeed with this method are not conscious while imagining a perfect letter, of seeing, at the same time, an imperfect one, and are not distracted when their vision is improved by their imagination. Many patients can remember perfectly with their eyes closed, or when they are looking at a place where they cannot see the letter; but just as soon as they look at it they begin to strain and lose control of their memory. Therefore, as the imagination depends upon the memory, they cannot imagine that they see the letter. In such cases it has been my custom to proceed somewhat in the manner described in the preceding chapter. I begin by saying to the patient:

"Can you imagine a black period on the bottom of this letter, and at the same time, while imagining the period perfectly, are you able to imagine that you see the letter?

Sometimes they are able to do this, but usually they are not. In that case they are asked to imagine part of the letter, usually the bottom. When they have become able to imagine this part straight, curved, or open, as the case may be, they become able to imagine the sides and top, while still holding the period on the bottom. But even after they have done this, they may still not be able to imagine the whole letter without losing the period. One may have to coax them along by bringing the card up a little closer, then moving it farther away; for when looking at a surface where there is anything to see, the imagination improves in proportion as one approaches the point where the sight is best, because at that point the eyes are most relaxed. When there is nothing particular to see, the distance makes no difference, because no effort is being made to see.

To encourage patients to imagine they see the letter it seems helpful to keep saying to them over and over again:

"Of course you do not see the letter. I am not asking you to see it. I am just asking you to imagine that you see it perfectly black and perfectly distinct."

When patients become able to see a known letter by the aid of their imagination, they become able to apply the same method to an unknown letter; for just as soon as any part of a letter, such as an area equal to a period, can be imagined to be perfectly black, the whole letter is seen to be black, although the visual perception of this fact may not, at first, last long enough for the patient to become conscious of it.

In trying to distinguish unknown letters, the patient discovers that it is impossible to imagine perfectly unless one imagines the truth; for if a letter, or any part

of a letter, is imagined to be other than it is, the mental picture is foggy and inconstant, just like a letter which is seen imperfectly.

The ways in which the imagination can be interfered with are very numerous. There is one way of imagining perfectly and an infinite number of ways of imagining imperfectly. The right way is easy. The mental picture of the thing imagined comes as quick as thought, and can be held more or less continuously. The wrong way is difficult. The picture comes slowly, and is both variable and discontinuous. This can be demonstrated to the patient by asking him first to imagine or remember a black letter as perfectly as possible with the eyes closed, and then to imagine the same letter imperfectly. The first he can usually do easily; but it will be found very difficult to imagine a black letter with clear outlines to be grey, with fuzzy edges and clouded openings, and impossible to form a mental picture of it that will remain constant for an appreciable length of time. The letter will vary in color, shape and location in the visual field, precisely as a letter does when it is seen imperfectly; and just as the strain of imperfect sight produces discomfort and pain, the effort to imagine imperfectly will sometimes produce pain. The more nearly perfect the mental picture of the letter, on the contrary, the more easily and quickly it comes and the more constant it is.

Some very dramatic cures have been effected by means of the imagination. One patient, a physician, who had worn glasses for forty years and who could not without them see the big C at twenty feet, was cured in fifteen minutes simply by imagining that he saw the letters black. When asked to describe the big C with unaided

vision he said it looked grey to him, and that the opening was obscured by a grey cloud to such an extent that he had to guess that it had an opening. He was told that the letter was black, perfectly black, and that the opening was perfectly white, with no grey cloud; and the card was brought close to him so that he could see that this was so. When he again regarded the letter at the distance, he remembered its blackness so vividly that he was able to imagine that he saw it just as black as he had seen it at the near-point, with the opening perfectly white; and therefore he saw the letter on the card perfectly black and distinct. In the same way he became able to read the seventy line; and so he went down the card, until in about five minutes he became able to read at twenty feet the line which the normal eye is supposed to read at ten feet. Next diamond type was given to him to read. The letters appeared grey to him, and he could not read them. His attention was called to the fact that the letters were really black, and immediately he imagined that he saw them black and became able to read them at ten inches.

The explanation of this remarkable occurrence is simply relaxation. All the nerves of the patient's body were relaxed when he imagined that he saw the letters black, and when he became conscious of seeing the letters on the card, he still retained control of his imagination. Therefore he did not begin to strain again, and actually saw the letters as black as he imagined them.

The patient not only had no relapse, but continued to improve. About a year later I visited him in his office and asked him how he was getting on. He replied that his sight was perfect, both for distance and the near-point. He could see the motor cars on the

other side of the Hudson River and the people in them, and he could read the names of boats on the river which other people could make out only with a telescope. At the same time he had no difficulty in reading the newspapers, and to prove the latter part of this statement, he picked up a newspaper and read a few sentences aloud. I was astonished, and asked him how he did it.

"I did what you told me to do," he said.

"What did I tell you to do?" I asked.

"You told me to read the Snellen test card every day, which I have done, and to read fine print every day in a dim light, which I have also done."

Another patient, who had a high degree of myopia complicated with atrophy of the optic nerve, and who had been discouraged by many physicians, was benefited so wonderfully and rapidly by the aid of his imagination that one day while in the office he lost control of himself completely, and raising a test card which he held in his hand, he threw it across the room.

"It is too good to be true," he exclaimed; "I cannot believe it. The possibility of being cured and the fear of disappointment are more than I can stand."

He was calmed down with some difficulty and encouraged to continue. Later he became able to read the small letters on the test card with normal vision. He was then given fine print to read. When he looked at the diamond type, he at once said that it was impossible for him to read it. However, he was told to follow the same procedure that had benefited his distance sight. That is, he was to imagine a period on one part of the small letters while holding the type at six inches. After testing his memory of the period a number of times, he became able to imagine he saw a period perfectly black

on one of the small letters. Then he lost control of his nerves again, and on being asked, "What is the trouble?" he said:

"I am beginning to read the fine print, and I am so overwhelmed that I lose my self-control."

In another case, that of a woman with high myopia complicated with incipient cataract, the vision improved in a few days from 3/200 to 20/50. Instead of going gradually down the card, a jump was made from the fifty line to the ten line. The card was brought up close to her, and she was asked to look at the letter O at three inches, the distance at which she saw it best, to imagine that she saw a period on the bottom of it and that the bottom was the blackest part. When she was able to do this at the near-point, the distance was gradually increased until she became able to see the O at three feet. Then I placed the card at ten feet and she exclaimed:

"Oh, doctor, it is impossible! The letter is too small. It is too great a thing for me to do. Let me try a larger letter first."

Nevertheless she became able in fifteen minutes to read the small O on the ten line at twenty-feet.

For Clear Close Reading Vision;

Shift on a Small Part of a Fine Print Black Letter;

Shift tiny point to tiny point on a imagined black period on a part of a fine print letter, and remember, imagine and see it dark black and clear. Practice with the eyes open, then closed using the memory, imagination, then open again. Example; imagine a black period on a fine print letter r; the top right curved part of the letter that looks like a period. Imagine the black period on it. Shift on that small part. Blink. Bring the r closer and closer to the eyes as it becomes clear at closer distances. Keep shifting on it. Blink. Shift on the entire letter. Then move back to the part.

Practice shifting on a black dot, then smaller dot, smaller... to period size. Then fine and microscopic print size. Blink. See pictures below. Start on larger letters, then practice on the smaller and fine, microscopic print letters.

Place two dots side by side . . Look at and shift on the dot on the < left. Notice it is darkest black, clearest. The dot on the right is also clear but not as perfectly clear as the dot directly regarded. This is Central-Fixation; the dot the eyes are looking directly at is most clear because it is in the exact central field. Next; look at, shift on the dot on the right >. Now this dot is darkest black and clearest. Try it on dots closer together . . .. Shift and blink.

This can also be done on far objects.
See chapter XI - Central-Fixation.

Remember, imagine and shift on a small black dot with the eyes closed. With practice it can also be remembered with the eyes open and the vision becomes clear.

Central Fixation- Look directly at the dot on the left and see it clear. Look away from it and see it less clear in the peripheral field.

Shift on the dots on the E; left and right, top and bottom, middle. See one dot at a time clearest, darkest black in the central field. Move the central field onto each dot you look at. Next; Imagine the E consists of many small black dots. Shift from small dot to small dot upon the E. Blink. Imagine smaller dots and shift on them. Imagine tiny dots.

Next; practice on the smaller E's; imagine dots on the E and shift dot to dot.

Do not imagine parts of the dots are off of the E, as in the picture of the largest E. The large dots on that picture are just for learning this practice. The true practice does not place parts of the dots outside of the E because; the eyes must use central-fixation *look directly at the object*. Not away from it. When imagining dots on the E, the dots must be on/in the E, the entire dot in the black ink.

Can you see one part of the tiny dot darkest black and clearest?
Yes = you have perfect Central-Fixation.

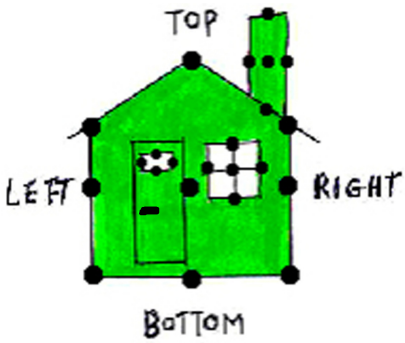
CHAPTER XV

SHIFTING AND SWINGING

WHEN the eye with normal vision regards a letter either at the near-point or at the distance, the letter may appear to pulsate, or to move in various directions, from side to side, up and down, or obliquely. When it looks from one letter to another on the Snellen test card, or from one side of a letter to another, not only the letter, but the whole line of letters and the whole card, may appear to move from side to side. This apparent movement is due to the shifting of the eye, and is always in a direction contrary to its movement. If one looks at the top of a letter, the letter is below the line of vision, and, therefore, appears to move downward. If one looks at the bottom, the letter is above the line of vision and appears to move upward. If one looks to the left of the letter, it is to the right of the line of vision and appears to move to the right. If one looks to the right, it is to the left of the line of vision and appears to move to the left.

Persons with normal vision are rarely conscious of this illusion, and may have difficulty in demonstrating it; but in every case that has come under my observation they have always become able, in a longer or shorter time, to do so. When the sight is imperfect the letters may remain stationary, or even move in the same direction as the eye.

It is impossible for the eye to fix a point longer than a fraction of a second. If it tries to do so, it begins to



Practice shifting on the house; shift 'move' the eyes (vision-where you are looking) from dot to dot (small part to small part). Start by shifting back and forth; left, right, left, right, then top and bottom, corner to corner, and to-from the middle dot to any dot. Then shift on the dots in any direction, order. Don't try to control the eyes. Let the eyes move freely. They will move automatically with the mental attention, to 'where you look'. Blink and relax. Shift on small parts of the house; the door, chimney, a window, window pane... Practice shifting part to part without the dots. See small parts clear as the eyes shift from one tiny part to another tiny part on a small part. Blink. Shift on the T-bear. Move from one small part to another small part, another, another... on his face, nose, eyes, fuzzy ears. His red tie, arms, feet, tummy. Shift on the stars and stripes on the United States flag. Shift on the Scottish plaid cloth.

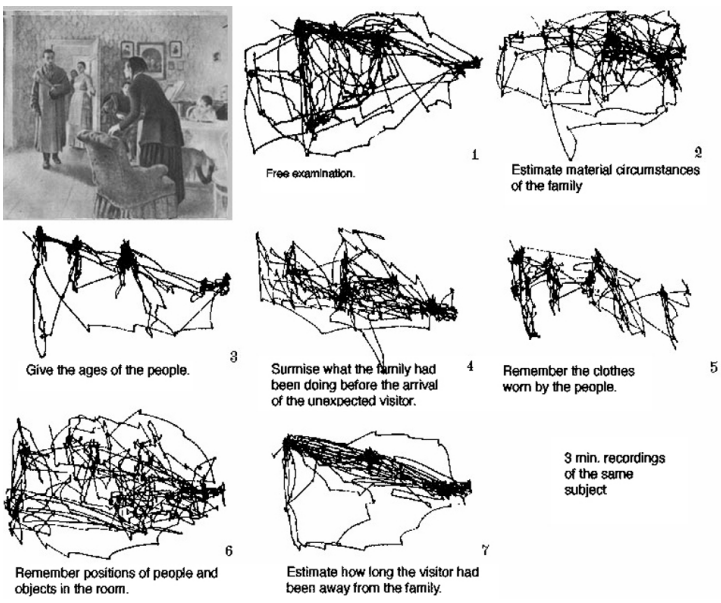
Next; practice on real objects at close and far distances; a far house, tree, airplane, sign. A close flower, leaf, stone. (Do not imagine dots on the objects. The dots on the picture are only to practice, learn shifting.)

Shifting is the natural way to see any object clear. Try it on a letter on a distant eyechart, then on a tiny fine print letter up close.
Then; Don't practice; let the eyes, mind drift freely from object to object and part to part on objects. Enjoy the scenery, investigate things as the eyes shift completely natural on their own, automatically moving with the mind's interest. Relax, deep easy breaths, blink. Forget about the eyes. Use your mind and vision. Bring your thoughts out into the world and enjoy what you see. The end of this book and the E-books contain more pictures, examples of shifting, central fixation and other practices.

strain and the vision is lowered. This can readily be demonstrated by trying to hold one part of a letter for an appreciable length of time. No matter how good the sight, it will begin to blur, or even disappear, very quickly, and sometimes the effort to hold it will produce pain. In the case of a few exceptional people a point may appear to be held for a considerable length of time; the subjects themselves may think that they are holding it; but this is only because the eye shifts unconsciously, the movements being so rapid that objects seem to be seen all alike simultaneously.

The shifting of the eye with normal vision is usually not conspicuous, but by direct examination with the ophthalmoscope it can always be demonstrated. If one eye is examined with this instrument while the other is regarding a small area straight ahead, the eye being examined, which follows the movements of the other, is seen to move in various directions, from side to side, up and down in an orbit which is usually variable. If the vision is normal these movements are extremely rapid and unaccompanied by any appearance of effort. The shifting of the eye with imperfect sight, on the contrary, is slower, its excursions are wider, and the movements are jerky and made with apparent effort.

It can also be demonstrated that the eye is capable of shifting with a rapidity which the ophthalmoscope cannot measure. The normal eye can read fourteen letters on the bottom line of a Snellen test card, at a distance of ten or fifteen feet, in a dim light, so rapidly that they seem to be seen all at once. Yet it can be demonstrated that in order to recognize the letters under these conditions it is necessary to make about four shifts to each letter. At the near-point, even though one part of the



Saccades

Natural Eye Movements, Patterns - Shifting with Central-Fixation 'Fixations'

The eyes, 'visual attention - center of the visual field' moves from object to object, part to part (point to point; 'fixation to fixation') on objects. This produces very clear vision.

Thoughts in the mind, and placement, movement, shape, texture, angle, distance... of objects, talking, listening to people produce various eye movements, patterns. See the picture below showing the eyes' movements when looking at people, objects in the room. When the vision is clear, eyes normal, relaxed; eye movement is frequent, easy. A variety of movements occur, including tiny saccadic shifts. The eyes produce many different movements; high frequency, microscopic movements, optical drift, tremors, vibrations... Some so small, rapid that they are seen only when using a special instrument.

All eye movements occur automatically, without effort, not thinking about the eyes, clarity of vision. The eyes (fovea) can look at, shift point to point on small parts of objects, see tiny fine details clear; Central-Fixation or 'Centralizing'.

When the mind, eyes, eye muscles are tense; the eyes' movements are decreased, become stiff, rigid, and mainly larger, longer shifts occur. Small and tiny, saccadic and other shifting movements are reduced. Vision is unclear. Eye muscle tension and unclear vision increase if eyeglasses are worn, mental strain continues. Eye movement, 'shifting' is necessary to; relax the mind, eyes, eye muscles, pull light into the eyes, move light on the retina and it's cones, rods 'light receptors', send energy signals to the brain to create a correct image and produce clarity. Shift for clear vision.

Blink, Breathe & Relax.

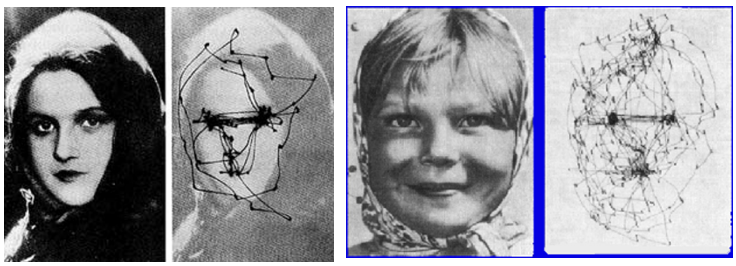
When shifting; keep it natural. Avoid thinking about moving the eyes. Avoid consciously controlling the eyes. Let nature do it; Bring yourself out into the world and enjoy your environment. Think like this; See the old cabin by the river; look at this part, move to that part, look here, there... Notice the design, wood, color. See the bird on the roof, move to it's head, face, eyes, beak, tail, feathers, wings, colors... Move along the green grass and flowers by the river.

Enjoy your vision and forget about the eyes and clarity. True natural function will occur with perfect vision.

letter is seen best, the rest may be seen well enough to be recognized; but at the distance it is impossible to recognize the letters unless one shifts from the top to the bottom and from side to side. One must also shift from one letter to another, making about seventy shifts in a fraction of a second.

A line of small letters on the Snellen test card may be less than a foot long by a quarter of an inch in height; and if it requires seventy shifts to a fraction of a second to see it apparently all at once, it must require many thousands to see an area of the size of the screen of a moving picture, with all its detail of people, animals, houses, or trees, while to see sixteen such areas to a second, as is done in viewing moving pictures, must require a rapidity of shifting that can scarcely be realized. Yet it is admitted that the present rate of taking and projecting moving pictures is too slow. The results would be more satisfactory, authorities say, if the rate were raised to twenty, twenty-two, or twenty-four a second.

The human eye and mind are not only capable of this rapidity of action, and that without effort or strain, but it is only when the eye is able to shift thus rapidly that eye and mind are at rest, and the efficiency of both at their maximum. It is true that every motion of the eye produces an error of refraction; but when the movement is short, this is very slight, and usually the shifts are so rapid that the error does not last long enough to be detected by the retinoscope, its existence being demonstrable only by reducing the rapidity of the movements to less than four or five a second. The period during which the eye is at rest is much longer than that during



Pictures of eye shifting patterns on page 160-161 are from the book; 'Eye Movements and Vision' by Alfred L. Yarbus. First printed in Moscow, Russia (USSR) in Russian. Later in English. Artists-scientist's created many pictures, eye shifting experiments. More Public Domain *Eye Tracking* pictures are on the Internet; Pictures that show natural eye movements from healthy eyes that have clear vision, and eye movements from eyes that have unclear vision, cataract.., and eye movement that is limited, altered for certain experiments. Choose carefully.

Eyeglasses block, impair the eyes' movement. Compare the eye movement of people that wear glasses to people that have clear eyesight, do not wear glasses.

Blindness can occur when the eyes completely stop their movements. Extreme mental, emotional shock, stress, strain can do this. A child saw his brother drown. He was unable to save him. The extreme sadness, shock from watching this occur caused his eyes to freeze immobile. He went blind and remains blind into his senior years. (He probably was never taught the Bates Method.)

Dominance of one brain hemisphere and/or part of the brain-brains' functions being suppressed can cause unclear eyesight at certain distances and affect the eyes' movement.

Natural Eyesight Improvement teachers apply extra techniques to release past and present stress, unpleasant emotions, experiences, mental strain; EFT, correcting, balancing the body's energy flow, Color Treatment, Relaxed Deep Breathing and other practices to release negative thoughts, emotions and replace them with positive ones. Relaxing the mind, body, neck, all muscles, improving brain function. Learn EFT from the TRUE founder, Gary Craig; http://www.emofree.com

Tap to find the root cause of the problem. Then all other energy blocks, negative emotions, associated physical, mental problems are cured.

The picture on the right > shows eye movements when looking at a person's face. This is true, completely natural eye shifting. No specific pattern; eyes 'mental-visual attention' move freely. Pattern varies for each face, object you look at, if the object moves, thoughts in the mind, where you choose to look.

We return clear eyesight by practicing 'imitating' shifting, central-fixation... as shown in the picture of the green house on page 159 and end of this book.

Then; don't practice; let the eyes, 'vision' move completely natural, on their own to produce the most perfect, relaxed, clearest eyesight.

which an error of refraction is produced. Hence, when the eye shifts normally no error of refraction is manifest. The more rapid the unconscious shifting of the eye, the better the vision; but if one tries to be conscious of a too rapid shift, a strain will be produced.

Perfect sight is impossible without continual shifting, and such shifting is a striking illustration of the mental control necessary for normal vision. It requires perfect mental control to think of thousands of things in a fraction of a second; and each point of fixation has to be thought of separately, because it is impossible to think of two things, or of two parts of one thing, perfectly at the same time. The eye with imperfect sight tries to accomplish the impossible by looking fixedly at one point for an appreciable length of time; that is, by staring. When it looks at a strange letter and does not see it, it keeps on looking at it in an effort to see it better. Such efforts always fail, and are an important factor in the production of imperfect sight.

One of the best methods of improving the sight, therefore, is to imitate consciously the unconscious shifting of normal vision and to realize the apparent motion produced by such shifting. Whether one has imperfect or normal sight, conscious shifting and swinging are a great help and advantage to the eye; for not only may imperfect sight be improved in this way, but normal sight may be improved also. When the sight is imperfect, shifting, if done properly, rests the eye as much as palming, and always lessens or corrects the error of refraction.

The eye with normal sight never attempts to hold a point more than a fraction of a second, and when it shifts, as explained in the chapter on "Central Fixation," it always sees the previous point of fixation worse. When it ceases to shift rapidly and to see the point

Being able to see that the point not regarded is less clear 'seen worse' improves the vision. You learn that the point regarded is clearest. That is normal vision. Dr. Bates also teaches central-fixation this way; *think about-see clearest the point regarded 'point the eyes are looking directly at'*. Just see the central field clearest without stopping to note that the previous point is less clear.

The point the eyes 'shift' to, look directly at is in the central field and seen clearest, 'best'. The previous point of fixation is less clear, seen worse because; after the eyes shift to a new point, the new point is in the central field 'fovea, macula's area of the retina' and the previous point is now in the peripheral field. The central area of the visual field is clearest due to the many cones 'light receptors' in the center of the retina-macula and most cones in the fovea centralis. Pg. 121. They produce perfect, clearest, detailed vision and bright color in the center of the visual field. The peripheral field is less clear due to having less cones and more rods in the peripheral area of the retina. In the outer peripheral field of the retina there are very few cones, no cones. Vision is more unclear in the outer and far outer peripheral field. Rods produce less clear vision, only grey-black color. They detect light, movement, continue to function in very dim light. Rods increase in the outer peripheral area of the retina. The previous point is always in the peripheral. Cataract, macula degeneration, advanced myopia, farsight, presbyopia, astigmatism, amblyopia can cause the central field to blur, cause the person to develop the bad habit of seeing only with their peripheral field; tilting, turning the eyes/head so they see only out of the side of the eyes-lens-retina, the the retina's peripheral area. This causes more vision impairment. Returning the clearest vision to the central field (central-fixation) is a main cure for many eye-vision problems. Realizing that the peripheral, 'point not regarded' is supposed to be less clear and the central (where the point regarded is supposed to be) is clearest helps people return to central-fixation, bring back clear central vision. The vision, eyes' health improves.

Some people misunderstand Dr. Bates; they think they must constantly 'forever' keep their attention on the peripheral field checking to see if the previous point-part of the object not regarded is less clear. This causes strain, diffusion because the mind, visual attention will be on the previous point and present point of fixation at the same time. Dr. Bates taught us; *To see best with the central vision*. He taught us to learn that the peripheral field-where we are not directly looking 'the previous point' is less clear. We experience this, understand it, improve the vision by observing it. *But*; we do not spend the rest of our life checking to see if the previous point is less clear. For perfectly clear, normal vision; keep the attention on the present point of fixation, in the central field, *the clearest area of the visual field*. Place the object (point) regarded into the central field and see it perfect. And shift.

shifted from worse, the sight ceases to be normal, the swing being either prevented or lengthened, or (occasionally) reversed. These facts are the keynote of the treatment by shifting.

In order to see the previous point of fixation worse, the eye with imperfect sight has to look farther away from it than does the eye with normal sight. If it shifts only a quarter of an inch, for instance, it may see the previous point of fixation as well as or better than before; and instead of being rested by such a shift, its strain will be increased, there will be no swing, and the vision will be lowered. At a couple of inches it may be able to let go of the first point; and if neither point is held more than a fraction of a second, it will be rested by such a shift and the illusion of swinging may be produced. The shorter the shift the greater the benefit; but even a very long shift—as much as three feet or more — is a help to those who cannot accomplish a shorter one. When the patient is capable of a short shift, on the contrary, the long shift lowers the vision. The swing is an evidence that the shifting is being done properly, and when it occurs the vision is always improved. It is possible to shift without improvement; but it is impossible to produce the illusion of a swing without improvement, and when this can be done with a long shift, the movement can gradually be shortened until the patient can shift from the top to the bottom of the smallest letter, on the Snellen test card or elsewhere, and maintain the swing. Later he may become able to be conscious of the swinging of the letters without conscious shifting.

No matter how imperfect the sight, it is always possible to shift and produce a swing, so long as the pre-

The Swing - Oppositional Movement. Natural illusion, movement of a object in the direction *opposite of* where the eyes-vision move to upon the object.

Shift left and right, top, bottom, diagonally on a object and see it appear to move in the opposite direction. Try it on a letter on the eyechart. Practice at close and far distances.

***Swaying;* Watch the moving pendulum of a large clock. Close your eyes and remember the pendulum moving. Gently sway as the pendulum does, and imagine you see things moving in the opposite direction. Open the eyes, gently sway as the pendulum does and see things moving in the opposite direction, as you blink. Vary your position. Stand with your feet slightly apart as you sway your body. Sit in a comfortable chair and sway. Sit in a comfortable chair and gently sway the head from side to side. Practice with eyes open and closed. Read more Sway, Long Swing examples in Dr. Bates Better Eyesight Magazine.**

***Using 3 test cards placed at 3 different distances*; We again started the standing sway and, while blinking, she was directed to look at a letter on the card nearest her, then to flash the same letter on the next card, and to repeat this with the distant card.**
This method was successful, and she was overcome with joy as she flashed each letter in turn on the cards. Eight weeks later, she read 10/10 on different test cards. The retinoscope showed no more eyestrain, and the patient has not had a relapse since.

***The Sway*; Sway the body from side to side, seeing objects about the room moving opposite to the movement of the body.**

After the patient has rested his eyes or palmed for half an hour, he is directed to stand before the Snellen test card, with his feet about one foot apart. He is then told to sway his body gently from side to side, while his vision is again tested with the card. While swaying from side to side, he is told how to imagine the Snellen test card to be moving. His attention is called to the fact that when his body, head and eyes move to the right, the Snellen test card moves to the left, and when he moves to the left, the Snellen test card appears to move to the right. (Oppositional Movement-The Swing)

The patient then is called upon to demonstrate that when his eyes move from side to side, that not only does the Snellen test card move (opposite) from side to side, but that all the letters or figures on the Snellen test card move with the card.

It is well to have the patient demonstrate also that when an effort is made to stop the movement of the letters, the letters become blurred or cannot be seen. The sway is beneficial in many ways because it lessens or prevents the stare, tension and strain.

(The Sway is also called the *Rock,* as in rocking in a chair, cradle...)

In swinging, one moves the body, head and eyes from side to side. (*body, head, eyes move together, at the same time, in the same direction. Synchronized.*)
When the body sways 'moves' to the right >, the head and eyes also move to the right >.
When the body sways 'moves' to the < left, the head and eyes also move to the < left.

By practicing the swinging exercise, many patients soon become able to imagine and see <u>stationary</u> objects to be moving in the opposite direction to the movement of the head and eyes;

When the eyes move to the right >, objects appear to move to the < left.
When the eyes move to the < left, objects appear to move to the right >.

The great benefit derived from the sway is that the stare, the strain, and concentration are prevented. One cannot sway, move the eyes, and at the same time hold the eyes stationary in order to stare or concentrate.

(Read Dr. Bates magazine articles; describes how concentration 'effort' cause immobility, strain, tension and prevents relaxation, clear eyesight.)

To improve relaxation, the shift of the eyes; Shorten the Long Swing into a Sway. Then shorten to a tiny shift on a letter.

See page 170, 171, 207, pg. 352 in the fine print section and 399 for Long Swing, Sway directions, pictures.

vious point of fixation is seen worse. Even diplopia and polyopia[1] do not prevent swinging with some improvement of vision. Usually the eye with imperfect vision is able to shift from one side of the card to the other, or from a point above the card to a point below it, and observe that in the first case the card appears to move from side to side, while in the second it appears to move up and down.

When patients are suffering from high degrees of eccentric fixation, it may be necessary, in order to help them to see worse when they shift, to use some of the methods described in the chapter on "Central Fixation." Usually, however, patients who cannot see worse when they shift at the distance can do it readily at the near-point, as the sight is best at that point, not only in myopia, but often in hypermetropia as well. When the swing can be produced at the near point, the distance can be gradually increased until the same thing can be done at twenty feet.

After resting the eyes by closing or palming, shifting and swinging are often more successful. By this method of alternately resting the eyes and then shifting, persons with very imperfect sight have sometimes obtained a temporary or permanent cure in a few weeks.

Shifting may be done slowly or rapidly, according to the state of the vision. At the beginning the patient will be likely to strain if he shifts too rapidly; and then the point shifted from will not be seen worse, and there will be no swing. As improvement is made, the speed can be increased. It is usually impossible, however, to realize the swing if the shifting is more rapid than two or three times a second.

[1] Double and multiple vision.

See a small branch on the top of a dead tree far away in the mountains; The top of the tree has a tiny branch that bends out to the right. > It is smaller, thinner than in the picture, barely visible. It is seen perfect, with better than 20/20 vision when the vision moves (eyes are shifting on it automatically), the mind and eyes are relaxed, looking at the branch without trying to see it clear. No effort. Looking at things for fun, entertainment, interest. Aldous Huxley calls it; *spontaneous attention*.

Practice shifting on the branch. Then; see it *completely natural* by spontaneously looking at it during your day when active, running around or relaxing in a chair...

Practice; Look at the top bent branch of the tree. Shift on that tiny part; use central-fixation 'centralizing'. Place the exact central field on it and shift point to point on the tiny branch; left and right, up and down. Move freely to any part, direction. Then, shift up and down the tree and on other branches. Shift on the tiny top branch again.

Then; pass over it out into the sky; sweep over it left and right, top and bottom, diagonally, in any direction into the sky. Look at the sky on the left side of it, then the right, above it, below... The vision moves over the sky, then branch, then sky as you move from one part of the sky, over the branch and out to another part of the sky. The exact central field (fovea) and inner and outer central moves over the branch as you pass over it. The branch is seen most perfectly clear when the exact central is moving over it. Shift on the branch for a while. Practice the eyes' fine detail *point to point* exact central field 'fovea' shifting. The eyes' fovea (exact central) moves around on it without 'trying' to shift. Avoid trying to see. Let the vision move. When looking at a tiny part; shift on it. Blink. Shift along the entire tree from part to part. The central field-fovea automatically moves to the part you are looking at. The eye movements are perfect, vision moves nice and easy, continually, drifting, flowing, shifting *without effort*. The tiny branch on the top of the tree flashes clear and remains clear! Blink, breath and move. Note; the clarity is lost, tension occurs if the eyes lock onto the branch/stop shifting. Movement 'shifting' prevents staring, tension and blurry vision. Let the vision move freely on the branch, with *complete relaxation*. Move back to the sky, then to the branch, then sky... Think something happy, or engaging. Look for a bird... in the tree.

If the eyes, head, neck feel tight, vision blurs when shifting on tiny parts; it indicates effort is occurring and it is interfering with mobility. Let go, relax and float. Let the eyes-vision shift, do central-fixation (centralizing) *on their own*.

A mental picture of a letter can, as a rule, be made to swing precisely as can a letter on the test card. Occasionally one meets a patient with whom the reverse is true; but for most patients the mental swing is easier at first than visual swinging; and when they become able to swing in this way, it becomes easier for them to swing the letters on the test card. By alternating mental with visual swinging and shifting, rapid progress is sometimes made. As relaxation becomes more perfect, the mental swing can be shortened, until it becomes possible to conceive and swing a letter the size of a period in a newspaper. This is easier, when it can be done, than swinging a larger letter, and many patients have derived great benefit from it.

All persons, no matter how great their error of refraction, when they shift and swing successfully, correct it partially or completely, as demonstrated by the retinoscope, for at least a fraction of a second. This time may be so short that the patient is not conscious of improved vision; but it is possible for him to imagine it, and then it becomes easier to maintain the relaxation long enough to be conscious of the improved sight. For instance, the patient, after looking away from the card, may look back to the big C, and for a fraction of a second the error of refraction may be lessened or corrected, as demonstrated by the retinoscope. Yet he may not be conscious of improved vision. By imagining that the C is seen better, however, the moment of relaxation may be sufficiently prolonged to be realized.

When swinging, either mental or visual, is successful, the patient may become conscious of a feeling of relaxation which is manifested as a sensation of universal swinging. This sensation communicates itself to any

Different Types of Shifting - Eye Movements;

Shifting; Shifting object to object, part to part on objects. Point to point (tiny part to tiny part) central-fixation with shifting.

Saccade (Saccadic) Shifts; Tiny and microscopic shifts; automatic high frequency, optical drift, healthy tremors, jerking movements...; like a fine tuned car motor humming along. Keeps the eyes in constant movement, relaxed eyes, eye muscles, mind. The fovea is always moving. Many movements are so small they cannot be seen or felt. The nerves in the retina vibrate, especially the fovea centralis keeping it in movement, maintaining clear vision. To see some of the tiny shifts; relax and watch for a tiny opposite swing caused the tiny eye shifts in various directions.

Scanning; Enjoying the scenery, moving on-through it, looking at any objects. Example; moving the vision along the mountains, trees, through a park, city. Saccadic movements occur. Scanning, saccades also occur when looking at a object, it's parts. A tiny high frequency tremor keeps the eyes-fovea in rapid movement, moving every fraction of a second and seeing the point the fovea is on clearest. This is central-fixation with shifting. The brain creates mental pictures of every tiny part of the object by using the fovea centralis, exact central field; it moves rapidly upon the object, putting together all the tiny parts into a perfect clear picture. Similar to the many tiny pixels combined to make a perfect clear picture in a book, movie. The images are stored in the memory for future use. If shifting, scanning, saccades stops; the vision blurs, the eyes' health is impaired.

Searching; Similar to scanning. The mind-eyes are looking for something specific; a bluebird... in the trees, sky. A person, building or street sign in a crowded city. Baseball in the grass. Looking for boats moving on the ocean, islands. Seashells on the beach. Saccadic movements occur. When the object is located; the eye movements center onto that object and more small, tiny movements occur; shifting, scanning, saccades...

Tracking; Eyes-vision on-and moving with a moving object; bird, plane flying over-along the mountains, moving across the sky left or right, diagonally or away from or toward you. A moving football, baseball, tennis ball, racing car. Both eyes move together perfectly, synchronized, equally; the eyes' foveas on the same point, moving together on/with the object and looking at/shifting on parts of the moving object.

Scientists state; tracking signals for eye movements are controlled in the brain and in the eye, retina. The eye is an extension of the brain. The eyes, brain also calculate the next position of the moving object; Example; a object flying in the sky; where its next placement ahead of it will be.

If trying to hit, catch a moving object; the brain, eyes calculate its speed, position, future position.., look to it's present and future placement. Another example of a moving object; a squirrel jumps into your peripheral field. Which nerve signal is quickest to make the eyes turn to look at it; the nerve signal from the brain or nerve signal directly from the eyes-retina, or both? Automatic and controlled movements from eyes and brain.

Convergence, Accommodation and Divergence, Un-accommodation; Looking close and far. Control of the central ray, visual axis's. Balanced eyes.

These 6 eye movements are a combination of automatic eye shifts and conscious-controlled (the brain sending the eyes-central vision to where you decide to look) eye shifts. Scanning, saccades are mainly automatic. Imitate the eye movements to return their automatic, perfect function.

object of which the patient is conscious. The motion may be imagined in any part of the body to which the attention is directed. It may be communicated to the chair in which the patient is sitting, or to any object in the room, or elsewhere, which is remembered. The building, the city, the whole world, in fact, may appear to be swinging. When the patient becomes conscious of this universal swinging, he loses the memory of the object with which it started; but so long as he is able to maintain the movement in a direction contrary to the original movement of the eyes, or the movement imagined by the mind, relaxation is maintained. If the direction is changed, however, strain results. To imagine the universal swing with the eyes closed is easy, and some patients soon become able to do it with the eyes open. Later the feeling of relaxation which accompanies the swing may be realized without consciousness of the latter; but the swing can always be produced when the patient thinks of it.

There is but one cause of failure to produce a swing, and that is strain. Some people try to make the letters swing by effort. Such efforts always fail. The eyes selves. The eye can shift voluntarily. This is a muscular act resulting from a motor impulse. But the Swing comes of its own accord when the shifting is normal. It does not produce relaxation, but is an evidence of it; and while of no value in itself is, like the period, very valuable as an indication that relaxation is being maintained.

The following methods of shifting have been found useful in various cases:

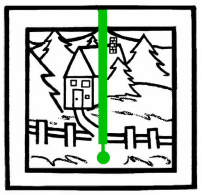
See the different 'swings' movement of objects at close, middle and far distances produced by the eyes-head-body movement. Follow directions under the top picture on the right. > Close objects appear to swing by in the opposite direction as you sway left and right. Far objects also move opposite the eyes-head-body movement, but; their opposite movement is so much shorter, slower than the close objects' opposite movement that the far objects 'appear' to move with you in the same direction.

Next; Stop the sway. Face a far object. Shift on it; left side to the right side, then right to left.., moving the head-body with the eyes *not longer, not shorter* than the shift of the eyes from one part on the object to another part. The far object now shows a *opposite* swing; it appears to move opposite of the direction that the eyes-head-body move to. It's opposite swing is short, never longer than the shift of the eyes. Seeing this brings perfect relaxation, central-fixation and very clear, detailed eyesight. Try it on a small far object; a tree branch, leaf, chimney brick. Blink. Shift on a large, small, tiny close object. See it swing opposite.

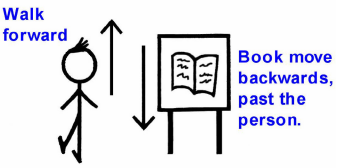
Sway left and right and see *multiple opposite movement* on 4 objects as in the picture; the close curtain cord at 5 ft., fence at 50 ft., house at 200 ft., and the mountains at 1000+ ft. They appear to move against each-other in opposite directions as you move left and right. This is caused by the different length-speed of each object's opposite movement. Don't lock the eyes-vision on the moving objects. Just sweep left-right over the scenery allowing them to swing by. Do a tiny sway and see a tiny swing.

Read page 322 for more swings, how the brain works with the eyes.

Go to Chapter XXII, pg. 227 for a Special Shifting Practice.



Face a open window with a curtain cord hanging in the center. Sway the body left and right. See the window/cord move in the opposite direction the body, head/eyes move to. See distant objects move in the same direction.



Stand beside the book stand. Walk forward and notice the book moves past the body, backwards in the opposite direction.
Next: Stand in front of the book. Walk forward and see the book appear to move toward you. Walk backward and the book moves away from the body.

No. 1—

(a) Regard a letter.
(b) Shift to a letter on the same line far enough away so that the first is seen worse.
(c) Look back at No. 1 and see No. 2 worse.
(d) Look at the letters alternately for a few seconds, seeing worse the one not regarded.

When successful, both letters improve and appear to move from side to side in a direction opposite to the movement of the eye.

No. 2—

(a) Look at a large letter.
(b) Look at a smaller one a long distance away from it. The large one is then seen worse.
(c) Look back and see it better.
(d) Repeat half a dozen times.

When successful, both letters improve, and the card appears to move up and down.

No. 3—

Shifting by the above methods enables the patient to see one letter on a line better than the other letters, and, usually, to distinguish it in flashes. In order to see the letter continuously it is necessary to become able to shift from the top to the bottom, or from the bottom to the top, seeing worse the part not directly regarded, and producing the illusion of a vertical swing.

(a) Look at a point far enough above the top of the letter to see the bottom, or the whole letter worse.
(b) Look at a point far enough below the bottom to see the top, or the whole letter, worse.
(c) Repeat half a dozen times.

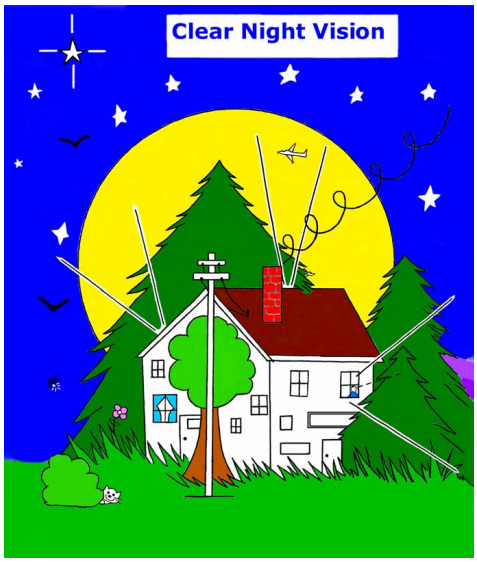
Practice Switching, Shifting and Central-Fixation on Objects at Close, Middle and Far Distances at Night in the Moonlight and Under Street Lights

The people in the back of the house are looking out the open windows at a close tree branch and the moon in the far distance beyond-in line with the tree branch. The light from the open windows is shining on the tree branch. The window light and moonlight on the tree branch provide enough light to activate the cones and rods in the eyes' retina for clear night vision. Find a scene like this in your neighborhood.

Shift and switch on the tree branch (close object) and the moon (far object);
Look at the tree branch. Shift part to part on the branch, leaves. Shift on small parts; one small part to another, then another... Shift on tiny parts; point to point using the center of the eyes' fovea. (As when seeing-moving upon the tiny dot pixels of ink that create a picture in a newspaper.) Fine tuned super clear detailed vision! Trace on/along the edge of the branches, leaves. Blink. Relaxed deep breaths, yawn.
Next; switch to the moon. Shift part to part on the moon. Shift on tiny parts. Shift on the craters and other parts-areas. Trace on their edges. (Tracing; pg. 400)
Trace around on the edge of the moon counter-clockwise, clockwise. Blink.

Switch back to the tree branch. Shift, trace on the branch, leaves.
Switch to the moon. Shift, trace on the moon.
Repeat switching, shifting, tracing on the tree branch and the moon.
(The head/face moves with the eyes when switching, shifting, tracing.)

Switch back and forth on the airplane and moon. Shift part to part on the airplane, then on the moon, then airplane, then moon. Shift on a cloud as it passes in front of the moon. Then on the moon, cloud... Look at the stars. Blink. (Switching; pg. 404+)
The man in front of the house is shifting, switching on a tree and far street sign.



If successful, the letter will appear to move up and down, and the vision will improve. The shift can then be shortened until it becomes possible to shift between the top and the bottom of the letter and maintain the swing. The letter is now seen continuously. If the method fails, rest the eyes, palm, and try again.

One may also practice by shifting from one side of the letter to a point beyond the other side, or from one corner to a point beyond the other corner.

No. 4—

(a) Regard a letter at the distance at which it is seen best. In myopia this will be at the near-point, a foot or less from the face. Shift from the top to the bottom until able to see each worse alternately, when the letter will appear blacker than before, and an illusion of swinging will be produced.

(b) Now close the eyes, and shift from the top to the bottom of the letter mentally.

(c) Regard a blank wall with the eyes open, and do the same. Compare the ability to shift and swing mentally with the ability to do the same visually at the near-point.

(d) Then regard the letter at the distance, and shift from the top to the bottom. If successful, the letter will improve, and an illusion of swinging will be produced.

No. 5—

Some patients, particularly children, are able to see better when one points to the letters. In other cases

When switching as described on pg. 167; Also set up 1 to 3 middle distance objects to switch, shift on; Switch back and forth, in any order on the tree branch, moon and middle distance objects.

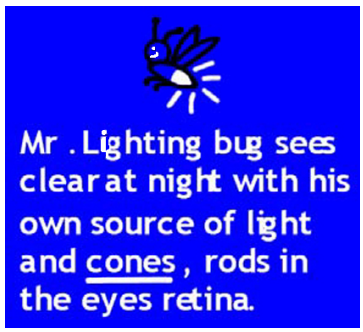
Vary the close and middle distances; Often the eyes need convergence, divergence, shifting improvement mainly at 2 specific distances. Find these 2 distances, then practice extra switching, shifting at those 2 distances. This will improve the vision quickly.

Practice switching, shifting with; Both eyes together. Then; one eye at a time. Then; both eyes together again. If vision is less clear in one eye; practice 1 to 2 minutes extra with that eye until night vision is equal, perfectly clear in the left and right eyes at all distances; close, middle and far. See page 409+ for entire directions.

Relax and blink. Blinking activates automatic eye shifting and tears to clean, moisturize, nourish the eyes, cornea. Tears contain water, oil, a natural antibiotic, proteins, nutrients. Blinking also activates the many oil glands in/along the top and bottom eyelids, covers the eyes with the oil. Healthy free flowing glands prevent dry eyes, deposits, growths, styes on/in the lids. Shifting also activates tears.

Take some deep relaxed breaths, get oxygen into the body, brain and eyes. It clears the vision. Yawn; it stretches, relaxes the neck muscles and produces tears. Think of something pleasant, happy.

Night Vision Switching, Shifting Video for picture pg. 167; http://www.youtube.com/watch?v=r5JxOFVi3hc



this is a distraction. When the method is found successful one can proceed as follows:

(a) Place the tip of the finger three or four inches below the letter. Let the patient regard the letter, and shift to the tip of the finger, seeing the letter worse.

(b) Reduce the distance between the finger and the letter, first to two or three inches, then to one or two, and finally to half an inch, proceeding each time as in (a).

If successful, the patient will become able to look from the top to the bottom of the letter, seeing each worse alternately, and producing the illusion of swinging. It will then be possible to see the letter continuously.

No. 6—

When the vision is imperfect it often happens that, when the patient looks at a small letter, some of the larger letters on the upper lines, or the big C at the top, look blacker than the letter regarded. This makes it impossible to see the smaller letters perfectly. To correct this eccentric fixation regard the letter which is seen best, and shift to the smaller letter. If successful, the small letter, after a few movements, will appear blacker than the larger one. If not successful after a few trials, rest the eyes by closing and palming, and try again. One may also shift from the large letter to a point some distance below the small letter, gradually approaching the latter as the vision improves.

No. 7—

Shifting from a card at three or five feet to one at ten or twenty feet often proves helpful, as the unconscious

Imperfect convergence, divergence, accommodation, un-accommodation caused by tension in and imbalance of the left and right eyes' muscles and the eyes' movement results in unclear vision. Even a very tiny imperfection of these eye movements in one eye or both eyes can lower the vision. A slight imperfection of the eyes' movement may not be visible to the naked eye. It can occur near-in the microscopic level, just enough to disrupt the synchronized-equal movement of the two eyes' foveas; The exact central fields of the left and right eyes will not merge and move together perfectly on the same point (part of the object the eyes are looking at). The central light ray will not focus perfect, equally on the exact center of the left and right eyes' foveas. The eyes' visual axis's will not be perfectly aligned. The left and right eyes' visual fields do not merge perfectly into one field. The entire visual field; peripheral and central are affected. Letters on the eyechart, mainly smaller ones appear unclear. Larger letters become unclear if the imbalance increases. Eyeglasses cause and increase this imbalance. Especially glasses with uneven strength lenses in the left and right eyes, bifocal, astigmatism prescription in the lenses, prisms. Stronger eyeglass prescriptions advance the condition into crossed, wandering eyes, double vision. Cure; Practice the 3 types of Switching on page 404 to 414.

Switching, shifting on close, middle and far objects in a straight line balances '*perfects*' the eyes' function; left and right eyes' convergence, divergence, accommodation, un-accommodation (eye and lens shape change, eye muscles, eyes and lens' movement) and eye shifting. The central light ray focuses exactly on the center of the fovea in both eyes. The two eyes' foveas, their exact central fields align-merge and move together perfectly point to point. The two eyes' entire visual fields are merged perfectly into one field. The central and peripheral are at their maximum clarity. This quickly improves the vision. Improving clarity in a eye that has less clear vision, getting the vision equal in the left and right eyes improves clarity to better than 20/20 at all distances.

Dr. Bates taught his patients; to look at, shift on letters on identical eyecharts placed at close, middle and far distances. And; to look at, shift on letters and read a close fine print card, then look out a open window to a sign on a building in the far distance.

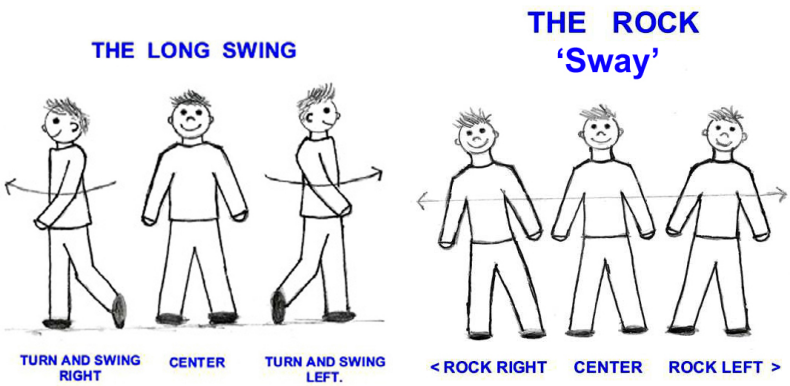
Apply Dr. Bates entire method to maintain clear vision; Shifting, Central-Fixation, the Opposite Swing, Memory, Imagination, Sunlight. Relaxation, Movement practices; Palming, Long Swing, Sway... Bring that mental-physical relaxation to the switching practice to make it easy, induce eye muscle relaxation, eye muscle and eye, vision coordination. The eyes will align and move correct.

memory of the letter seen at the near-point helps to bring out the one at the distance.

Different people will find these various methods of shifting more or less satisfactory. If any method does not succeed, it should be abandoned after one or two trials and something else tried. It is a mistake to continue the practice of any method which does not yield prompt results. The cause of the failure is strain, and it does no good to continue the strain.

When it is not possible to practice with the Snellen test card, other objects may be utilized. One can shift, for instance, from one window of a distant building to another, or from one part of a window to another part of the same window, from one auto to another, or from one part of an auto to another part, producing, in each case, the illusion that the objects are moving in a direction contrary to the movement of the eye. When talking to people, one can shift from one person to another, or from one part of the face to another part. When reading a book, or newspaper, one can shift consciously from one word or letter to another, or from one part of a letter to another.

Shifting and swinging, as they give the patient something definite to do, are often more successful than other methods of obtaining relaxation, and in some cases remarkable results have been obtained simply by demonstrating to the patient that staring lowers the vision and shifting improves it. One patient, a girl of sixteen with progressive myopia, obtained very prompt relief by shifting. She came to the office wearing a pair of glasses tinted a pale yellow, with shades at the sides; and in spite of this protection she was so annoyed by the light that her eyes were almost closed, and she had great



The eyes, head and body move together, at the same time, in the same direction when swinging and swaying.

The long Swing **not only improves the vision, but also relieves or cures pain, discomfort, fatigue, and aligns the spine.**

Stand with the feet about one foot apart, facing straight ahead. Lift the left heel a short distance from the floor while turning the shoulders, head, and eyes (entire body) to the right > until the line of the shoulders is parallel with the right wall.

Now, place the left heel upon the floor and raise the right heel as you turn the shoulders, head, and eyes (entire body) to the < left until the line of the shoulders is parallel with the left wall.

Alternate swinging *turning-facing back and forth* from the right wall to the left wall, to the right, to the left... being careful to move the head and eyes with the movement of the shoulders.

When doing the long swing, stationary objects move with varying degrees of rapidity. Objects located almost directly in front of you, closest to you appear to move with express train speed, moving past you in the opposite direction and should be very much blurred.

It is very important to make no attempt to see clearly objects which seem to be moving very rapidly. Don't stop the swing, don't lock the eyes-vision onto the moving objects. Just relax, swing and let the objects swing by in the opposite direction.

When the swing is practiced easily, *continuously*, without effort and without paying any attention to moving objects, one soon becomes conscious that the long swing relaxes the tension of the muscles and nerves. It relaxes the mind, body, neck, eyes, improves eye movement and the movement, alignment of the bones in the spine, hips, back and neck. This relaxes their muscles, tendons and nerves...

Shift left and right on the E and see it move in the opposite direction. Practice with the eyes open, then closed with the imagination, then open.

difficulty in finding her way about the room. Her vision without glasses was 3/200. All reading had been forbidden, playing the piano from the notes was not allowed, and she had been obliged to give up the idea of going to college. The sensitiveness to light was relieved in a few minutes by focussing the light of the sun upon the upper part of the eyeball when she looked far down, by means of a burning glass (see Chapter XVII). The patient was then seated before a Snellen test card and directed to look away from it, rest her eyes, and then look at the big C. For a fraction of a second her vision was improved, and by frequent demonstrations she was made to realize that any effort to see the letters always lowered the vision. By alternately looking away, and then looking back at the letters for a fraction of a second, her vision improved so rapidly that in the course of half an hour it was almost normal for the distance. Then diamond type was given her to read. The attempt to read it at once brought on a severe pain. She was directed to proceed as she had in reading the Snellen test card; and in a few minutes, by alternately looking away and then looking at the first letter of each word in turn, she became able to read without fatigue, discomfort, or pain. She left the office without her glasses, and was able to see her way without difficulty. Other patients have been benefited as promptly by this simple method.

Mammy's story continued;

As time went on, she obtained normal vision with the use of the test card, and became able to read very fine print and to thread a needle. We left the Harlem Hospital Clinic, never thinking that we would hear from her again. Six years had passed, and new patients were coming and going from our own clinic, when one day about three months ago, we received a letter from mammy. All through the letter were words of gratitude and praise for what we had done for her. She is now seventy-eight years old, and can still read her newspaper and thread a needle. She asked for permission to come to see us. She wanted the Doctor to look at her eyes to prove that her cataract had entirely disappeared. We, of course, were anxious to see her. When she came both of her eyes were examined and no sign of cataract was found in either eye. Her vision with various test cards was 10/10, and she read fine print without any difficulty, because she did as she was told. She was cured.

The Long Swing and Sway relaxes the mind, body, NECK, eyes, eye muscles and improves the vision. They activate healthy eye shifting, body, head movement with the eyes and the appearance of the 'Swing', Oppositional Movement.
Do the Long Swing or Sway 'move' and see stationary objects swing opposite.

Shorten the movement; do short and tiny sways and see short and tiny opposite swings. Shift on a small letter and see it move opposite. Small eye shifts, seeing a small opposite swing (with relaxation) brings very clear vision. Practice on large and small letters at close, middle and far distances. Fine, microscopic print letters.

The long swing can help remove years of chronic neck tension from wearing eyeglasses, incorrect posture. At first this might cause a soar neck as the muscles and sometimes neck bones are re-aligning, returning to correct function and relaxation. The entire spine is activated, aligned. 50-100 long swings is the usual practice. Do it gently. The head, eyes and body move together, same direction. If the neck gets soar, it will be temporary. Reduce the number of swings to 5-20 until the neck is completely relaxed. The long swing, sway done before sleep and in the morning prevents tension, strain in the eyes, body. See Dr. Bates Better Eyesight Magazine in the E-Books and more pictures, directions at the end of this book.

Sway Examples-Directions From Dr. Bates Better Eyesight Magazine

***Swaying;* Stand with the feet about one foot apart, facing the Snellen test card at a distance of fifteen feet. Sway from side to side, while moving the head and eyes in the same direction. It is a benefit to the sight to alternately open and close the eyes while swaying slowly, easily, and continuously a short distance from side to side. It is a help to imagine the Snellen test card, or one or more letters of the card, to be moving opposite to the movement of the body, head, and eyes. If the card, or a letter of the card, does not appear to move, the vision soon becomes imperfect.**

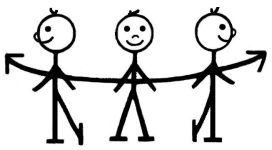
When practiced properly, without effort, the sway enables one to imagine each of the smaller letters to be as black as the largest letter on the card. The white part of the card around, in all letters is also imagined to be whiter than other parts of the test card, where there are no letters.

I told him to stand with eyes closed, and sway his body a short distance from side to side, just as an elephant does. This made him smile, but he did as I told him.

He was then directed to open his eyes, and to blink frequently as he swayed. While moving his body from left to right, he was able to flash the letters of the test card, and without stopping, he read 10/50 with both eyes. His face expressed his pleasure, and his eyes twinkled as he remarked: "I'm coming back for more treatment and will prove to those, who gave me no hope, that I am cured!"

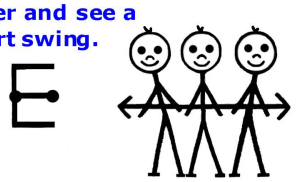
(Other objects; a billboard, clock, tree... can be used in place of the test card.)

Mammy came regularly, three days a week for many months, and was treated for cataract. In the clinic she was taught to sway her body slightly from side to side and to blink all the time. The swaying helped her to see things about the room moving opposite to the movement of her body. The blinking prevented the stare, which is usually the cause of cataract.



Long Swing

Shift on a small letter and see a short swing.



Sway/rock left and right.

CHAPTER XVI

THE ILLUSIONS OF IMPERFECT AND OF NORMAL EYESIGHT

PERSONS with imperfect sight always have illusions of vision; so do persons with normal sight. But while the illusions of normal sight are an evidence of relaxation, the illusions of imperfect sight are an evidence of strain. Some persons with errors of refraction have few illusions, others have many; because the strain which causes the error of refraction is not the same strain that is responsible for the illusions.

The illusions of imperfect sight may relate to the color, size, location and form of the objects regarded. They may include appearances of things that have no existence at all, and various other curious and interesting manifestations.

ILLUSIONS OF COLOR

When a patient regards a black letter and believes it to be grey, yellow, brown, blue, or green, he is suffering from an illusion of color. This phenomenon differs from color-blindness. The color-blind person is unable to differentiate between different colors, usually blue and green, and his inability to do so is constant. The person suffering from an illusion of color does not see the false colors constantly or uniformly. When he looks at the Snellen test card the black letters may appear to him at one time to be grey; but at another moment they may appear to be a shade of yellow, blue, or brown. Some

patients always see the black letters red; to others, they appear red only occasionally. Although the letters are all of the same color, some may see the large letters black and the small ones yellow or blue. Usually the large letters are seen darker than the small ones, whatever color they appear to be. Often different colors appear in the same letter, part of it seeming to be black, perhaps, and the rest grey or some other color. Spots of black, or of color, may appear on the white; and spots of white, or of color, on the black.

ILLUSIONS OF SIZE

Large letters may appear small, or small letters large. One letter may appear to be of normal size, while another of the same size and at the same distance may appear larger or smaller than normal. Or a letter may appear to be of normal size at the near-point and at the distance, and only half that size at the middle distance. When a person can judge the size of a letter correctly at all distances up to twenty feet his vision is normal. If the size appears different to him at different distances, he is suffering from an illusion of size. At great distances the judgment of size is always imperfect, because the sight at such distances is imperfect, even though perfect at ordinary distances. The stars appear to be dots, because the eye does not possess perfect vision for objects at such distances. A candle seen half a mile away appears smaller than at the near-point; but seen through a telescope giving perfect vision at that distance it will be the same as at the near-point. With improved vision the ability to judge size improves.

The correction of an error of refraction by glasses seldom enables the patient to judge size as correctly as

the normal eye does, and the ability to do this may differ very greatly in persons having the same error of refraction. A person with ten diopters of myopia corrected by glasses may (rarely) be able to judge the sizes of objects correctly. Another person, with the same degree of myopia and the same glasses, may see them only one-half or one-third their normal size. This indicates that errors of refraction have very little to do with incorrect perceptions of size.

ILLUSIONS OF FORM

Round letters may appear square or triangular; straight letters may appear curved; letters of regular form may appear very irregular; a round letter may appear to have a checker-board or a cross in the center. In short, an infinite variety of changing forms may be seen. Illumination, distance and environment are all factors in this form of imperfect sight. Many persons can see the form of a letter correctly when other letters are covered, but when the other letters are visible they cannot see it. The indication of the position of a letter by a pointer helps some people to see it. Others are so disturbed by the pointer that they cannot see the letter so well.

ILLUSIONS OF NUMBER

Multiple images are frequently seen by persons with imperfect sight, either with both eyes together, with each eye separately, or with only one eye. The manner in which these multiple images make their appearance is sometimes very curious. For instance, a patient with presbyopia read the word HAS normally with both eyes. The word PHONES he read correctly with the left eye;

but when he read it with the right eye he saw the letter P double, the imaginary image being a little distance to the left of the real one. The left eye, while it had normal vision for the word PHONES, multiplied the shaft of a pin when this object was in a vertical position (the head remaining single), and multiplied the head when the position was changed to the horizontal (the shaft then remaining single). When the point of the pin was placed below a very small letter, the point was sometimes doubled while the letter remained single. No error of refraction can account for these phenomena. They are tricks of the mind only. The ways in which multiple images are arranged are endless. They are sometimes placed vertically, sometimes horizontally or obliquely, and sometimes in circles, triangles and other geometrical forms. Their number, too, may vary from two to three, four, or more. They may be stationary, or may change their position more or less rapidly. They also show an infinite variety of color, including a white even whiter than that of the background.

ILLUSIONS OF LOCATION

A period following a letter on the same horizontal level as the bottom of the letter may appear to change its position in a great variety of curious ways. Its distance from the letter may vary. It may even appear on the other side of the letter. It may also appear above or below the line. Some persons see letters arranged in irregular order. In the case of the word AND, for instance, the D may occupy the place of the N, or the first letter may change places with the last. All these things are mental illusions. The letters sometimes ap-

pear to be farther off than they really are. The small letters, twenty feet distant, may appear to be a mile away. Patients troubled by illusions of distance sometimes ask if the position of the card has not been changed.

ILLUSIONS OF NON-EXISTENT OBJECTS

When the eye has imperfect sight the mind not only distorts what the eye sees, but it imagines that it sees things that do not exist. Among illusions of this sort are the floating specks which so often appear before the eyes when the sight is imperfect, and even when it is ordinarily very good. These specks are known scientifically as "muscæ volitantes," or "flying flies," and although they are of no real importance, being symptoms of nothing except mental strain, they have attracted so much attention, and usually cause so much alarm to the patient, that they will be discussed at length in another chapter.

ILLUSIONS OF COMPLEMENTARY COLORS

When the sight is imperfect, the subject, on looking away from a black, white, or brightly colored object, and closing the eyes, often imagines for a few seconds that he sees the object in a complementary, or approximately complementary, color. If the object is black upon a white background, a white object upon a black background will be seen. If the object is red, it may be seen as blue; and if it is blue, it may appear to be red. These illusions, which are known as "after-images," may also be seen, though less commonly, with the eyes open, upon any background at which the subject happens to look, and are often so vivid that they appear to be real.

ILLUSIONS OF THE COLOR OF THE SUN

Persons with normal sight see the sun white, the whitest white there is; but when the sight is imperfect it may appear to be any color in the spectrum—red, blue, green, purple, yellow, etc. In fact, it has even been described by persons with imperfect vision as totally black. The setting sun commonly appears to be red, because of atmospheric conditions; but in many cases these conditions are not such as to change the color, and while this still appears to be red to persons with imperfect vision, to persons with normal vision it appears to be white. When the redness of a red sun is an illusion, and not due to atmosphere conditions, its image on the ground glass of a camera will be white, not red, and the rays focussed with a burning glass will also be white. The same is true of a red moon.

BLIND SPOTS AFTER LOOKING AT THE SUN

After looking at the sun, most people see black or colored spots which may last from a few minutes to a year or longer, but are never permanent. These spots are also illusions, and are not due, as is commonly supposed, to any organic change in the eye. Even the total blindness which sometimes results, temporarily, from looking at the sun, is only an illusion.

ILLUSIONS OF TWINKLING STARS

The idea that the stars should twinkle has been embodied in song and story, and is generally accepted as part of the natural order of things; but it can be demon-

Modern Natural Eyesight Improvement teachers state to CLOSE THE EYES when facing the sun (Sunning). Some Original Bates Method teachers allow Open Eyes Sunning. It is healthy for the eyes, mind, body when done correct; Always MOVE the eyes, and head/face with the eyes; side to side, up, down... and BLINK when sunning with the eyes open. Always MOVE the eyes, and head/face with the eyes; side to side, up, down... when sunning with the eyes closed. Blinking is not needed when sunning with the eyes closed.

I 'Clark Night' practice closed eyes sunning and also sun with the eyes open. I have not experienced unhealthy effects when it's done correct. Sunlight benefits my eyesight and eyes, body's health. Avoid over-exposure to sunlight. Follow exact directions at the end of the book; pg. 381 to 391. The first time I tried sunning with the eyes open, I did it wrong 'the time was too long, eyes not moving enough'. This resulted in a colored spot *after image* of the sun's light in the vision for 5 days. No harmful result to the eyes, vision.

When sunning; ALWAYS keep the eyes and head MOVING (eyes, head/face move together, in the same direction). Blink often. Look away from the sun often, then back to it, away, back. Move the eyes-head/face together across the sun and sky; left <, right >, left <, right >, up, down, diagonally.., and keep blinking. Circle the sun clockwise and counter-clockwise. Draw the Figure Eight. (See page 417) Do the Sway, Long Swing while facing, moving across the sun. Read the sunlight directions in chapter XVII, pg. 183.

Limit open eyes sunning to a few seconds at a time. Light white Irish... skin burns quickly. (Avoid black clothing when sunning; black increases the heat, chance of sunburn.) Sometimes I wear a white or other color hood/mask (no black) over my head/face when sunning to prevent sunburn, freckles on the skin. It has holes for the eyes to see through and for nose-mouth breathing. Cover the entire face. The mask does not block any part of the visual field. Eyes can see the entire central and peripheral. The top of the hood has a flap that opens, closes as needed if the head gets too hot. The hood/mask is used only when necessary. Spend time in the sun without covering the head, face. There is a major Chakra-Chi energy center on the top of the head. Sunlight activates, strengthens it. Energy centers are also on the face, body. The eyes, skin, head, face, body need sunlight to build natural tolerance to sunlight, to absorb sunlight, its energy and remain healthy. Spiritual training (Theosophy...) states; the sun provides a *necessary* form of energy, vitality to the spirit bodies (etheric, astral...), aura and physical body, brain.

strated that this appearance is simply an illusion of the mind.

CAUSE OF THE ILLUSIONS OF IMPERFECT SIGHT

All the illusions of imperfect sight are the result of a strain of the mind, and when the mind is disturbed for any reason, illusions of all kinds are very likely to occur. This strain is not only different from the strain that produces the error of refraction, but it can be demonstrated that for each and every one of these illusions there is a different kind of strain. Alterations of color do not necessarily affect the size or form of objects, or produce any other illusion, and it is possible to see the color of a letter, or of a part of a letter, perfectly, without recognizing the letter. To change black letters into blue, or yellow, or another color, requires a subconscious strain to remember or imagine the colors concerned, while to alter the form requires a subconscious strain to see the form in question. With a little practice anyone can learn to produce illusions of form and color by straining consciously in the same way that one strains unconsciously; and whenever illusions are produced in this way it will be found that eccentric fixation and an error of refraction have also been produced.

The strain which produces polyopia is different again from the strain which produces illusions of color, size and form. After a few attempts most patients easily learn to produce polyopia at will. Staring or squinting, if the strain is great enough, will usually make one see double. By looking above a light, or a letter, and then trying to see it as well as when directly regarded, one can produce an illusion of several lights, or letters, arranged vertically. If the strain is great enough, there

may be as many as a dozen of them. By looking to the side of the light or letter, or looking away obliquely at any angle, the images can be made to arrange themselves horizontally, or obliquely at any angle.

To see objects in the wrong location, as when the first letter of a word occupies the place of the last, requires an ingenuity of eccentric fixation and an education of the imagination which is unusual.

The black or colored spots seen after looking at the sun, and the strange colors which the sun sometimes seems to assume, are also the result of the mental strain. When one becomes able to look at the orb of day without strain, these phenomena immediately disappear.

After-images have been attributed to fatigue of the retina, which is supposed to have been so overstimulated by a certain color that it can no longer perceive it, and therefore seeks relief in the hue which is complementary to this color. If it gets tired looking at the black C on the Snellen test card, for instance, it is supposed to seek relief by seeing the C white. This explanation of the phenomenon is very ingenious but scarcely plausible. The eyes cannot see when they are closed; and if they appear to see under these conditions, it is obvious that the subject is suffering from a mental illusion with which the retina has nothing to do. Neither can they see what does not exist; and if they appear to see a white C on a green wall where there is no such object, it is obvious again that the subject is suffering from a mental illusion. The after-image indicates, in fact, simply a loss of mental control, and occurs when there is an error of refraction, because this condition also is due to a loss of mental control. Anyone can produce an after-image at will by trying to see the big C all alike—that is, under a strain;

but one can look at it indefinitely by central fixation without any such result.

While persons with imperfect sight usually see the stars twinkle, they do not necessarily do so. Therefore it is evident that the strain which causes the twinkling is different from that which causes the error of refraction. If one can look at a star without trying to see it, it does not twinkle; and when the illusion of twinkling has been produced, one can usually stop it by "swinging" the star. On the other hand, one can start the planets, or even the moon, to twinkling, if one strains sufficiently to see them.

ILLUSIONS OF NORMAL SIGHT

The illusions of normal sight include all the phenomena of central fixation. When the eye with normal sight looks at a letter on the Snellen test card, it sees the point fixed best, and everything else in the field of vision appears less distinct. As a matter of fact, the whole letter and all the letters may be perfectly black and distinct, and the impression that one letter is blacker than the others, or that one part of a letter is blacker than the rest, is an illusion. The normal eye, however, may shift so rapidly that it appears to see a whole line of small letters all alike simultaneously. As a matter of fact there is, of course, no such picture on the retina. Each letter has not only been seen separately, but it has been demonstrated in the chapter on "Shifting and Swinging" that if the letters are seen at a distance of fifteen or twenty feet, they could not be recognized unless about four shifts were made on each letter. To produce the impression of a simultaneous picture of fourteen letters,

See the Illusion of *The Swing of Opposite Movement*. Read page 318, 322 for entire description of the swing, opposite movement, shifting directions, head-body-eyes movement, stationary and non-stationary objects.

The article on page 318 is placed here in larger print.

Most of the time the head, body moves with the eyes. This keeps relaxed, perfect eye shifting with central-fixation. Seeing stationary objects move means; *Seeing 'The Swing' of Opposite Movement*. The object the eyes 'vision' shifts on produces an illusion; it appears to move opposite of the direction that the eyes move 'shift' to. Shift left to right >; the object moves left <. Shift right to left <; the object moves right >. Moving the head, body with the eyes improves appearance of opposite movement, makes it easy to see. Suggestion #11 on page 318 is saying; *The ability to shift and see the opposite movement even when the head, body does not move. Indicates the eyes alone can shift with perfect relaxation, perfect central-fixation from one point to another point.*

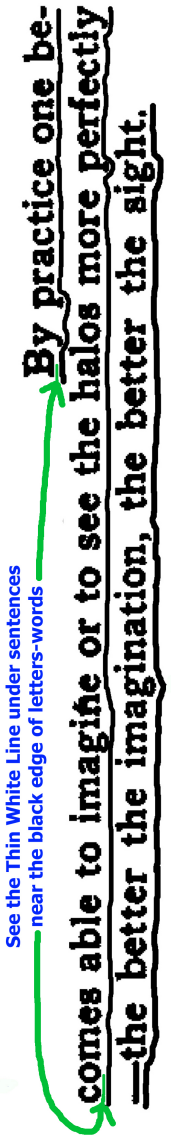
BUT; not moving the head, body with the eyes can cause tension in the eyes, eye muscles, head, neck and body. It is natural for the head to turn, move with the eyes, *with your central field*. The head, body moves in the same direction the eyes move to; face what you are looking at. Constantly looking left, right, up, down... without turning-moving the head with the eyes causes tension, pulling. Tension is relieved, movement is free when the head moves with the eyes. The neck is relaxed.

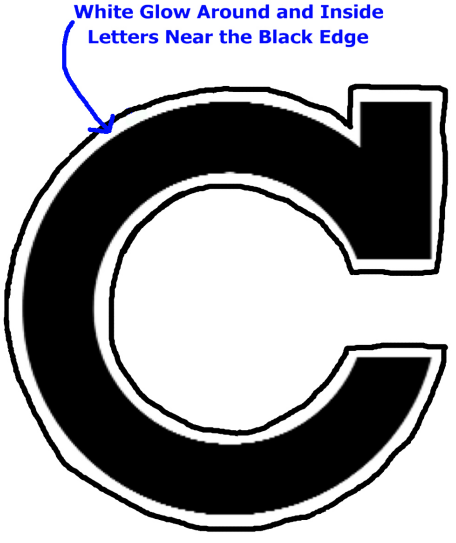
It is easy to see opposite movement on close objects. Far objects also show opposite movement. But; if the head-body-eyes move as when swaying left and right or walking, riding in a car looking out the side window; far objects appear to move with the head-body-eyes, especially when there is a closer object in front of the far object. So; to see the opposite movement when shifting on a far object; keep the head movement *equal with the eyes*; not longer, not shorter than the shift of the eyes from one point (part) on the object to another. This produces perfect central-fixation. This rule also applies when looking at, shifting on a close object; head movement is not longer, not shorter than the eyes' shift. Keep the head-face with the eyes; the part of the object you are looking directly at is between the eyes, at eye level, in the *central field*. The central field moves object to object, part to part on a object. Each new part or new object you move to goes into the central field. Moving the head with the eyes perfects this, makes it easy, relaxed. Dr. Bates' Better Eyesight Magazine contains directions for a variety of swings (Long, Short Swing, Variable...), seeing the Swing of Opposite and Same Direction Movement.

therefore, some sixty or seventy pictures, each with some one point more distinct than the rest, must have been produced upon the retina. The idea that the letters are seen all alike simultaneously is therefore, an illusion. Here we have two different kinds of illusions. In the first case the impression made upon the brain is in accordance with the picture on the retina, but not in accordance with the fact. In the second the mental impression is in accordance with the fact, but not with the pictures upon the retina.

The normal eye usually sees the background of a letter whiter than it really is. In looking at the letters on the Snellen test card it sees white streaks at the margins of the letters, and in reading fine print it sees between the lines and the letters, and in the openings of the letters, a white more intense than the reality. Persons who cannot read fine print may see this illusion, but less clearly. The more clearly it is seen, the better the vision; and if it can be imagined consciously—it is imagined unconsciously when the sight is normal—the vision improves. If the lines of fine type are covered, the streaks between them disappear. When the letters are regarded through a magnifying glass by the eye with normal sight, the illusion is not destroyed, but the intensity of the white and black are lessened. With imperfect sight it may be increased to some extent by this means, but will remain less intense than the white and black seen by the normal eye. The facts demonstrate that perfect sight cannot be obtained with glasses.

The illusions of movement produced by the shifting of the eye and described in detail in the chapter on "Shifting and Swinging" must also be numbered among the illusions of normal sight, and so must the perception of





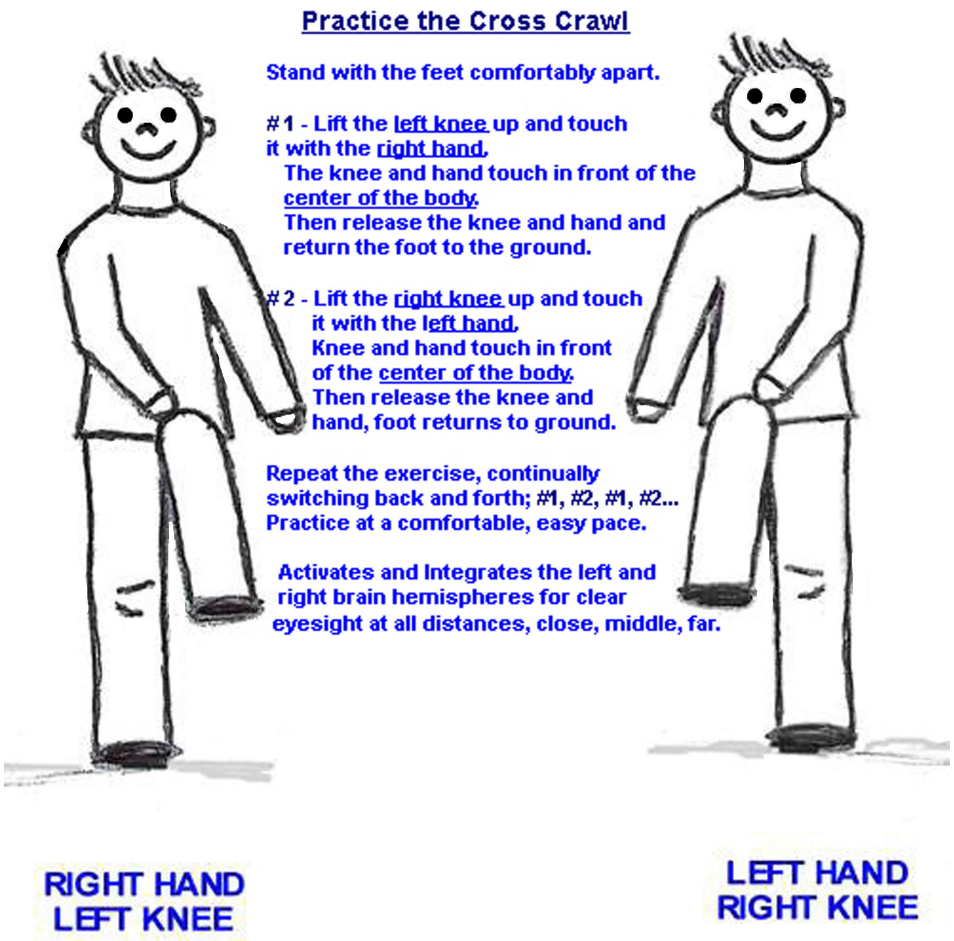
See page 326 and the eyecharts chapter at the end of the book for more descriptions of the white glowing line under sentences, the white glow on the white page between sentences and around, inside letters.
Also called Halos.

objects in an upright position. This last is the most curious illusion of all. No matter what the position of the head, and regardless of the fact that the image on the retina is inverted, we always see things right side up.

The Cross Crawl is a modern exercise to practice before and after the Long Swing or Sway.

It improves function of the brain and left and right brain hemispheres with the eyes, eye muscles, retina, entire visual system. It helps correct crossed, wandering eyes and balances, coordinates the left and right eyes' movements. It equalizes the clarity of vision in the left and right eyes and improves the vision. The Figure Eight ∞ on pg. 417 also improves the brain's function with the eyes, eye muscles... and gets the neck moving, relaxed and aligned.

THE CROSS CRAWL



CHAPTER XVII

VISION UNDER ADVERSE CONDITIONS A BENEFIT TO THE EYES

ACCORDING to accepted ideas of ocular hygiene, it is important to protect the eyes from a great variety of influences which are often very difficult to avoid, and to which most people resign themselves with the uneasy sense that they are thereby "ruining their eyesight." Bright lights, artificial lights, dim lights, sudden fluctuations of light, fine print, reading in moving vehicles, reading lying down, etc., have long been considered "bad for the eyes," and libraries of literature have been produced about their supposedly direful effects. These ideas are diametrically opposed to the truth. When the eyes are properly used, vision under adverse conditions not only does not injure them, but is an actual benefit, because a greater degree of relaxation is required to see under such conditions than under more favorable ones. It is true that the conditions in question may at first cause discomfort, even to persons with normal vision; but a careful study of the facts has demonstrated that only persons with imperfect sight suffer seriously from them, and that such persons, if they practice central fixation, quickly become accustomed to them and derive great benefit from them.

Although the eyes were made to react to the light, a very general fear of the effect of this element upon the organs of vision is entertained both by the medical profession and by the laity. Extraordinary precautions are

Fluorescent lights impair the health, function of the eyes and clarity of vision; the light-bulbs, (large and small bulbs) contain mercury, produce radiation, flicker, abnormal and low shadow, contrast. The light has a extreme imbalance in it's light-wave spectrum. Even full spectrum fluorescent bulbs are imperfect and burn out partially resulting in unbalanced, unhealthy light, increased flicker, mercury... Broken bulbs are dangerous, emit more mercury. Do not touch a broken bulb. Mercury, toxins get into the skin, blood! Mercury causes brain, kidney, lung, nervous system damage, many health problems. It directly affects the eyes, vision and the eyes, vision are also impaired by the damage mercury causes to the body, brain.

Some vision teachers endorse a certain type of full spectrum fluorescent light. I prefer alternatives; Use a different type of full spectrum light-bulb that does not contain toxins. Lights that are exactly (as a artificial light can be) as the sun's natural full light spectrum. Natural UV light that reaches the planet must be included. Sunlight through open windows, skylights and spending time outside in the sun is the best full spectrum, true natural light. Read sunlight, health books by John Ott; *Health and Light; The Extraordinary Study that Shows How Light Affects Your Health and Emotional Well-Being. Health and Light; The Effects of Natural and Artificial Light on Man and Other Living Things. Light, Radiation, and You; How to Stay Healthy.* Jacob Liberman O.D. Ph.D.; *Light; Medicine of the Future, How We Can Use It to Heal Ourselves NOW.*

taken in our homes, offices and schools to temper the light, whether natural or artificial, and to insure that it shall not shine directly into the eyes; smoked and amber glasses, eye-shades, broad-brimmed hats and parasols are commonly used to protect the organs of vision from what is considered an excess of light; and when actual disease is present, it is no uncommon thing for patients to be kept for weeks, months and years in dark rooms, or with bandages over their eyes.

The evidence on which this universal fear of the light has been based is of the slightest. In the voluminous literature of the subject one finds such a lack of information that in 1910 Dr. J. Herbert Parsons of the Royal Ophthalmic Hospital of London, addressing a meeting of the Ophthalmological Section of the American Medical Association, felt justified in saying that ophthalmologists, if they were honest with themselves, "must confess to a lamentable ignorance of the conditions which render bright light deleterious to the eyes."[1] Since then, Verhoeff and Bell have reported[2] an exhaustive series of experiments carried on at the Pathological Laboratory of the Massachusetts Charitable Eye and Ear Infirmary, which indicate that the danger of injury to the eye from light radiation as such has been "very greatly exaggerated." That brilliant sources of light sometimes produce unpleasant temporary symptoms cannot, of course, be denied; but as regards definite pathological effects, or permanent impairment of vision from exposure to light alone, Drs. Verhoeff and Bell were unable to find, either clinically or experimentally, anything of a positive nature.

---

[1] Jour. Am. Med. Assn., Dec. 10, 1910, p. 2028.
[2] Proc. Am. Acad. Arts and Sciences. 1916, Vol. 51, No. 13.

As for danger from the heat effects of light, they consider this to be "ruled out of consideration by the immediate discomfort produced by excessive heat." They conclude, in short, that "the eye in the process of evolution has acquired the ability to take care of itself under extreme conditions of illumination to a degree hitherto deemed highly improbable." In their experiments, the eyes of rabbits, monkeys and human beings were flooded for an hour or more with light of extreme intensity, without any sign of permanent injury, the resulting scotomata[1] disappearing within a few hours. Commercial illuminants were found to be entirely free of danger under any ordinary conditions of their use. It was even found impossible to damage the retina with any artificial illuminant, except by exposures and intensities enormously greater than any likely to occur outside the laboratory. In one case an animal succumbed to heat after an exposure of an hour and a half to a 750-watt nitrogen lamp at twenty centimeters—about eight inches; but in a second experiment, in which it was well protected from the heat, there was no damage to the eye whatever after an exposure of two hours. As for the ultra-violet part of the spectrum, to which exaggerated importance has been attached by many recent writers, the situation was found to be much the same as with respect to the rest of the spectrum; that is, "while under conceivable or realizable conditions of over-exposure, injury may be done to the external eye, yet under all practicable conditions found in actual use of artificial sources of light for illumination, the ultra-violet part of the spectrum may be left out as a possible source of injury."

The results of these experiments are in complete ac-

[1] Blind areas.

cord with my own observations as to the effect of strong light upon the eyes. In my experience such light has never been permanently injurious. Persons with normal sight have been able to look at the sun for an indefinite length of time, even an hour or longer, without any discomfort or loss of vision. Immediately afterward they were able to read the Snellen test card with improved vision, their sight having become better than what is ordinarily considered normal. Some persons with normal sight do suffer discomfort and loss of vision when they look at the sun; but in such cases the retinoscope always indicates an error of refraction, showing that this condition is due, not to the light, but to strain. In exceptional cases, persons with defective sight have been able to look at the sun, or have thought that they have looked at it, without discomfort and without loss of vision; but, as a rule, the strain in such eyes is enormously increased and the vision decidedly lowered by sun-gazing, as manifested by inability to read the Snellen test card. Blind areas (scotomata) may develop in various parts of the field—two or three or more. The sun, instead of appearing perfectly white, may appear to be slate-colored, yellow, red, blue, or even totally black. After looking away from the sun, patches of color of various kinds and sizes may be seen, continuing a variable length of time, from a few seconds to a few minutes, hours, or even months. In fact, one patient was troubled in this way for a year or more after looking at the sun for a few seconds. Even total blindness lasting a few hours has been produced. Organic changes may also be produced. Inflammation, redness of the conjunctiva, cloudiness of the lens and of the aqueous and vitreous humors, congestion and cloudiness of the retina, optic nerve and choroid, have all re-

sulted from sun-gazing. These effects, however, are always temporary. The scotomata, the strange colors, even the total blindness, as explained in the preceding chapter, are only mental illusions. No matter how much the sight may have been impaired by sun-gazing, or how long the impairment may have lasted, a return to normal

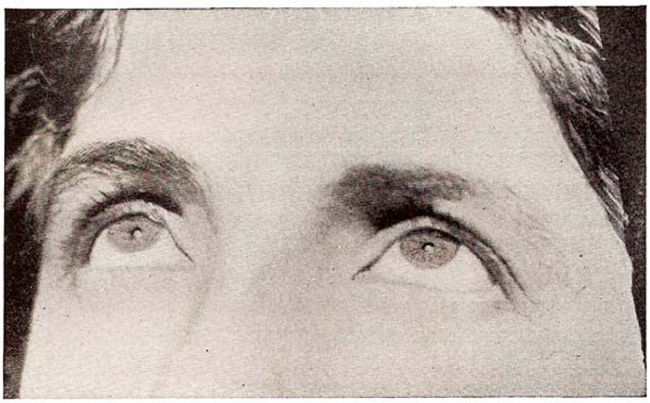


Fig. 46.—Woman With Normal Vision Looking Directly at the Sun. Note That the Eyes are Wide Open and That There Is No Sign of Discomfort. Picture is Emily A. Bates (C. Lierman)

has always occurred; while prompt relief of all the symptoms mentioned has always followed the relief of eye-strain, showing that the conditions are the result, not of the light, but of the strain. Some persons who have believed their eyes to have been permanently injured by the sun have been promptly cured by central fixation, indicating that their blindness had been simply functional.

By persistence in looking at the sun, a person with nor-

Modern Bates Method Natural Vision Improvement Teachers state; to face the sun only with the EYES CLOSED. Looking at the bright sky, clouds, tree tops semi-near and away from the sun with the eyes open is allowed, it improves the benefits of sunning. There are teachers, cultures that practice Open Eyes Sunning *Sun-Gazing,* looking at the sun with the eyes open a specific way and claim it's beneficial, can cure many eye, health problems including cataract, blindness. When Sunning with the eyes open or closed; Always MOVE 'Shift' THE EYES SIDE TO SIDE. MOVE THE HEAD WITH THE EYES in the same direction. Shift continually; Left and Right, Up and Down, Diagonally. Move freely in any direction. Trace around the sun. BLINK OFTEN when the eyes are open. Keep the eyes, head/face moving, shifting on the sun and across the sun and sky. Look away from the sun often. DO NOT STARE at the sun. Eye immobility causes overexposure to the light, heat. When looking at the sun; limit time to a few seconds. Sunning incorrectly, facing it too long can cause colored light spots in the visual field lasting for days, weeks, months. Strong sunlight in high altitudes-snow, other conditions increase the light-heat, can cause a cornea, eye sunburn. People that have experienced this state their eyes healed. Ask a eye doctor and climate scientist for advice and a list of areas on the planet where the sun is normal strength-intensity; safe for practicing sunning. The skin/face must be protected from sunburn. But; when the skin and eyes do not get sunlight; the body will lack natural vitamin D and other nutrients, the brain, eyes and body's health, functions are impaired. Balance is the solution; Get sunlight on the skin and eyes daily. Avoid over-exposure. Maintain a good diet, nutrients. Entire directions are on the next 4 pages and page 381-391.

mal sight soon becomes able to do so without any loss of vision; but persons with imperfect sight usually find it impossible to accustom themselves to such a strong light until their vision has been improved by other means. One has to be very careful in recommending sun-gazing to persons with imperfect sight; because although no permanent harm can result from it, great temporary discomfort may be produced, with no permanent benefit. In some rare cases, however, complete cures have been effected by this means alone.

In one of these cases, the sensitiveness of the patient, even to ordinary daylight, was so great that an eminent specialist had felt justified in putting a black bandage over one eye and covering the other with a smoked glass so dark as to be nearly opaque. She was kept in this condition of almost total blindness for two years without any improvement. Other treatment extending over some months also failed to produce satisfactory results. She was then advised to look directly at the sun. The immediate result was total blindness, which lasted several hours; but next day the vision was not only restored to its former condition, but was improved. The sun-gazing was repeated, and each time the blindness lasted for a shorter period. At the end of a week the patient was able to look directly at the sun without discomfort, and her vision, which had been 20/200 without glasses and 20/70 with them, had improved to 20/10, twice the accepted standard for normal vision.

Patients of this class have also been greatly benefited by focussing the rays of the sun directly upon their eyes, marked relief being often obtained in a few minutes.

Like the sun, a strong electric light may also lower the vision temporarily, but never does any permanent harm.

DO NOT wear eyeglasses, contact lenses, sunglasses, tinted, colored, UV blocking lenses, pinhole glasses when Sunning with the eyes open or closed, doing any Sunlight Treatment. Glass, plastic can act as a magnifier causing sunlight passing through it at certain angles to burn the eye. All glass, plastic... disrupts, blocks out part of the suns healthy full light spectrum. This causes unhealthy partial spectrum, unbalanced light energy/frequency waves to exit the glass and enter the eyes. Light travels to the retina, converts to electric, chemical energy signals that travel to the brain, along the spinal cord, nerves to all areas, organs... of the body. Glands, organs in the brain, hormone, chemical production, regulation, sleep, mood, energy, *all brain, body, eye functions* are affected by, work with sunlight and need correct energy signals. The eyes, brain, body need completely natural full spectrum sunlight, (not passing through glass, plastic, dark or tinted... material) to function correct, remain healthy. This also pertains to windows; home, car... All glasses, contacts block rays and bend the light rays into unnatural shape, focus. Prescriptions (nearsight, farsight...) in an eyeglass lens causes the light to be more unbalanced. Astigmatism sections in the eyeglass place uneven areas in the glass. This increases imbalance of the light rays, waves. Bifocals contribute to this disruption. Sunglasses, tinted, colored, UV blocking lenses, prisms increase the imbalance. Contact lenses completely cover the eye's pupil, iris, cornea blocking all natural light. They also block-deprive the cornea of oxygen, tears, oil. Nerve signals for tear production from the cornea to the brain and then to the tear gland are blocked. Oil glands along the eyelids are also affected. Stress, pressure is placed on the cornea. The cornea, eyes contain toxins, buildup from the contact's material and the cleaning solutions. Contact lenses impair blood vessel function near the cornea; blood vessels grow on the cornea. *Corneal Neovascularization*. When not practicing Sunning; the wearing of eyeglasses, contact lenses, sunglasses... still results in unbalanced light entering the eyes, brain, body. Most artificial light is unbalanced. Wearing eyeglasses, contacts, sunglasses... inside in artificial light increases the light imbalance. Avoid sun-block/ sunscreen creams. The chemicals are toxic and the cream converts the sunlight to unbalanced, unhealthy light. Unbalanced light, chemicals can cause skin cancer. The skin needs natural full spectrum sunlight. Get some healthy sun on the face and entire body.

In those exceptional cases in which the patient can become accustomed to the light, it is beneficial. After looking at a strong electric light some patients have been able to read the Snellen test card better.

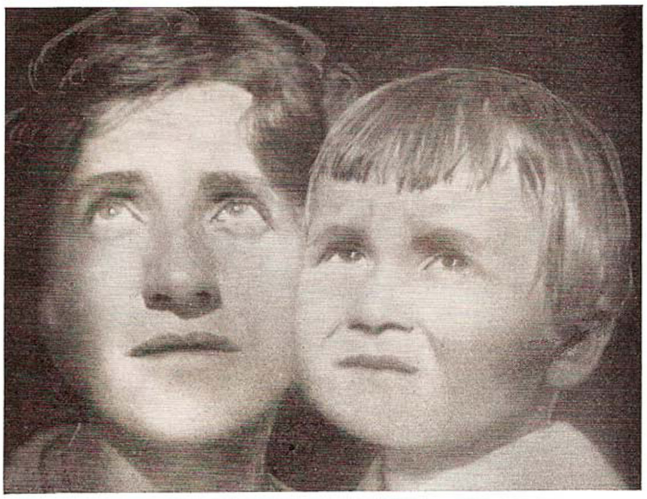


Fig. 47. Woman Aged 37, Child Aged 4, Both Looking Directly at Sun Without Discomfort

Picture; Emily C. Lierman, A. Bates

It is not light but darkness that is dangerous to the eye. Prolonged exclusion from the light always lowers the vision, and may produce serious inflammatory conditions. Among young children living in tenements this is a somewhat frequent cause of ulcers upon the cornea, which ultimately destroy the sight. The children, finding their eyes sensitive to light, bury them in the pillows

Modern teachers state; Sunning is done with CLOSED EYES ONLY. And; to always MOVE '*SHIFT*' THE EYES AND HEAD/FACE WITH THE EYES side to side and in various directions. This prevents tension/strain, over-exposure, and it moves the sunlight equally over the entire retina-lens-eyes, activates all areas of the eyes, retina. Keep the eyes BLINKING.

Open-Eyes Sunning, *Sun-Gazing* is still practiced by some cultures, a specific way; Apply the directions listed above ^, EYES, HEAD MOVING, EYES BLINKING. Open-Eyes Sunning is limited to 5 to 10 seconds. Alternate; eyes closed, open...

Due to depletion of the ozone layer; it is not maintaining a normal amount of sunlight. Increased light wave strength-heat is reaching the planet surface in some areas. Open-eyes sunning must be done with caution. Avoid those areas of the planet. Limit practice time. I 'Clark Night' practice closed eyes sunning and open-eyes sunning in Central Massachusetts, USA with benefit. In the past I did it wrong and saw a colored light image of the sun in the visual field that lasted for 5 days. Now, I do it right; no side effects. Sometimes the eyes see an after image of the sun's light. It is harmless and quickly fades. Similar to after looking at a light bulb or lighted-colorful neon sign at night. After images fade quickly when the eyes are healthy, no strain, have clear vision. Bilberry improves the retina's adjustment to light, dark. A healthy diet, drug free body, no chemicals, no chemical sinus sprays, keeping natural relaxed use of the eyes-vision, *free of strain* is necessary for healthy eyes, clear eyesight and the eyes/body's natural tolerance, absorption and use of sunlight. Children must be supervised by parents, obtain a doctor's advice when sunning. Protect the skin, face from sunburn. Time limit for direct sunlight. See pg. 381. Sunning cures some types of blindness, glaucoma, cataract, retinitis pigmentosa and other eye, vision problems. Sunlight is healthy for the optic nerve, cones, rods in the retina. It also improves the health of the body, mind/brain, mood, sleep, color perception and use of the memory, imagination to visualize colors, energy level and spiritual energy 'the internal and external energy, spirit, etheric-astral.., chakras, meridians, chi, kundalini, aura...' Sunlight brings clear eyesight. Many benefits, too many to list.

Fact; Corrupt eye doctors preferring to sell eyeglasses, contacts lenses, eye surgery and drugs forced the 1943 and later editions of this book to remove; open eyes sunning, all sunlight pictures, information describing how sunlight cures many eye-vision problems, other pictures, practices and all pictures of Dr. Bates experiments on the eyes, eye muscles, lens, cornea proving that tension in the eye muscles causes unclear vision and relaxation of the muscles restores clear vision, healthy eyes.

and thus shut out the light entirely. The universal fear of reading or doing fine work in a dim light is, however, unfounded. So long as the light is sufficient so that one can see without discomfort, this practice is not only harmless, but may be beneficial.

Sudden contrasts of light are supposed to be particularly harmful to the eye. The theory on which this idea is based is summed up as follows by Fletcher B. Dresslar, specialist in school hygiene and sanitation of the United States Bureau of Education:

"The muscles of the iris are automatic in their movements, but rather slow. Sudden contrasts of strong light and weak illumination are painful and likewise harmful to the retina. For example, if the eye, adjusted to a dim light, is suddenly turned toward a brilliantly lighted object, the retina will receive too much light and will be shocked before the muscles controlling the iris can react to shut out the superabundance of light. If contrasts are not strong, but frequently made, that is, if the eye is called upon to function where frequent adjustments in this way are necessary, the muscles controlling the iris become fatigued, respond more slowly and less perfectly. As a result, eyestrain in the ciliary muscles is produced and the retina is over-stimulated. This is one cause of headaches and tired eyes."[1]

There is no evidence whatever to support these statements. Sudden fluctuations of light undoubtedly cause discomfort to many persons, but, far from being injurious, I have found them, in all cases observed, to be actually beneficial. The pupil of the normal eye, when it has normal sight, does not change appreciably under

[1] School Hygiene, Brief Course Series in Education, edited by Monroe, 1916, p. 240.

Sun with one eye at a time to get used to the light. Then use both eyes.

See picture of Emily Lierman, Dr. Bates assistant on the right. > Alternate; Sunning, Palming, Sunning, Palming... to improve light tolerance and adjustment of the eyes, retina, cones, rods, iris-pupil to light and dark, the eyes' production of visual purple. Eat spinach, carrots, lutein, rutin, taurine, zinc and other food source nutrients. Bilberry berries and other dark red, purple berries improve day and night vision, eye health. Eat bilberries and bioflavonoids, the white inner and outer part of lemon, orange peels to strengthen capillaries, veins... in the body, brain and eyes.

Many herbs, and some food impair the vision; AVOID eyebright, black cohosh, vitex, soy, refined sugar, the artificial sweetener aspartame, hormone creams.., drugs. Aspartame poisons the optic nerve, injures the joints, muscles, causes many health problems. Eyebright is toxic; causes headache, tearing, itching, eye redness, vision problems, disrupts blood sugar... People sell it due to it's name attracting sales. I know two men that were talked into using certain herbs from a corrupt herbalist. The herbs increased eye and blood pressure in one man and lowered it in the other. This caused all kinds of eye, retina, lens, vision and health problems. When they stopped the herbs, the eyes healed and vision, health improved.

Use organic food as a vitamin, mineral... source. See the nutrition chapter in the e-book for a list of healthy and unhealthy herbs, supplements, food.

Demonstrating again that the normal eye can regard the orb of day without injury. With the sun shining almost directly into her eye, the subject reads the Snellen test card with normal vision.

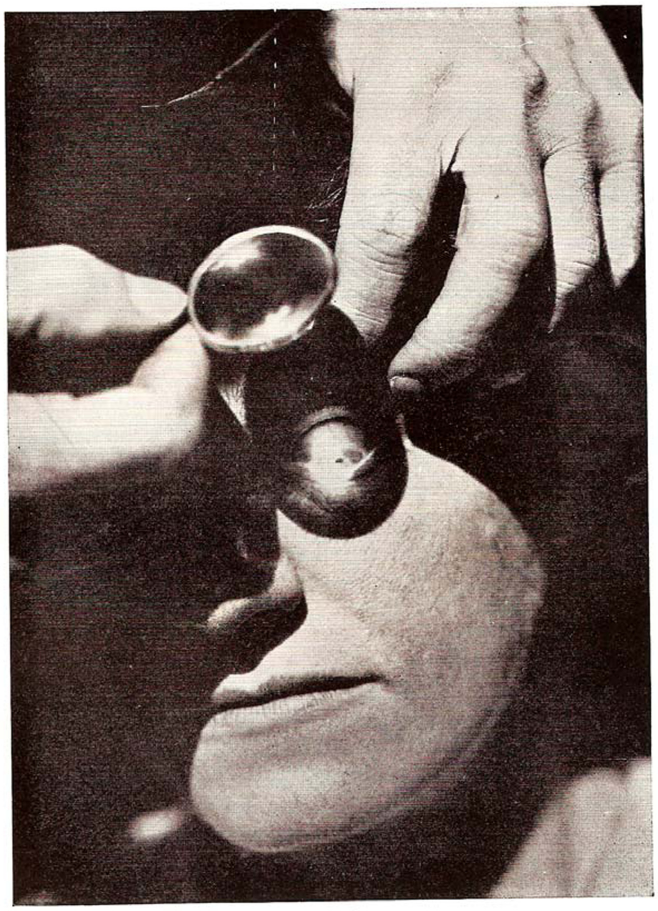


Fig. 48. Focussing the Rays of the Sun Upon the Eye of a Patient by Means of a Burning Glass
191

The Sun-Glass Treatment is applied by an *experienced* Bates Method Ophthalmologist. It is used only in certain cases of vision impairment, blindness, cataract - if it is needed. The treatment is temporary. The Sun-Glass is a magnifier; if used wrong it can burn, scar and injure the eye, cornea, iris, sclera, lens, retina and impair the vision. Light passing through the Sun-Glass must NOT enter the eye's pupil. The pupil faces away from the Sun-Glass light beam. The pupil is completely covered by the lower eyelid. The Sun-Glass light shines only on the sclera, white area of the eye as the patient looks far down, placing the pupil under the lower eyelid to protect the eye's pupil, retina, internal areas of the eye. In the picture above; the top edge of the pupil appears to be a bit above the lower eyelid. (it might be a shadow.) The pupil is facing far down, away from the light. The light beam does not enter the pupil. Dr. Bates keeps the Sun-Glass at a specific placement, distance in front of the sun, the sun's rays and the sclera so the light shines far away from the pupil. He covers the entire pupil with the lower eyelid without causing discomfort, tension-pulling on the eyes, eye muscles. See the Sun-Glass pictures with pupil completely covered on page 384 and 385. Movement of the Sun-Glass light helps prevent heat. The Sun-Glass light is kept in constant movement in various directions upon the sclera. The light is on the eye for only a couple seconds. Movement of the light, time the light is on the eye, specific distance of the glass controls the level of heat, brightness, prevents injury. Do one eye at a time. The other eye is covered with a eye-patch and also looks far down. Patients have used the Sun-Glass safely at home after Dr. Bates treated them with it in his office and trained them how to use it. He then gives them a Sun-Glass with complete written instructions on a card.

A *negative effect* of this treatment is; it places unbalanced, partial sunlight (it is NOT normal full spectrum sunlight) on the eye because it acts as any glass does, and more unnatural due to it being a magnifier which is much like a very strong close vision +Plus eyeglass lens prescription. The plus lens, *when used as eyeglasses to see, read with* quickly impairs the vision, leads to cataract, retina injury, other eye problems. All eyeglasses are unhealthy, cause cataract, retina... injury and block healthy full spectrum sunlight.

The Sun-Glass (Burning Glass) Treatment, done correct and not over-applied, placing a safe amount of concentrated sunlight on the sclera; activates, *brings to life* the cells, cones, rods 'light receptors', nerves, capillaries... in the retina, eyes. It heals the optic nerve, lens, can cure cataract, glaucoma... It brings back perception of light. This cures blindness! Practice of the Bates Method and plain sunning, daily sunlight (without the Sun-Glass, without eyeglasses, sunglasses...) is often all that is needed for healthy eyes, clear eyesight.

Never wear eyeglasses, contact lenses, sunglasses, tinted, colored, UV blocking... lenses, pinhole glasses when using the Sun-Glass, any Sunlight practice. Use the Sun-Glass outside in the sunlight, when the sun's light is weakest. Do not use sunlight passing through window glass. Light from a full spectrum light-bulb is safer, but less natural, less effective. See pages 381-391 for entire directions, safety tests.

the influence of changes of illumination; and persons with normal vision are not inconvenienced by such changes. I have seen a patient look directly at the sun after coming from an imperfectly lighted room, and then, returning to the room, immediately pick up a newspaper and read it. When the eye has imperfect sight, the pupil usually contracts in the light and expands in the dark, but it has been observed to contract to the size of a pinhole in the dark. Whether the contraction takes place under the influence of light or of darkness, the cause is the same, namely, strain. Persons with imperfect sight suffer great inconvenience, resulting in lowered vision, from changes in the intensity of the light; but the lowered vision is always temporary, and if the eye is persistently exposed to these conditions, the sight is benefited. Such practices as reading alternately in a bright and a dim light, or going from a dark room to a well-lighted one, and vice versa, are to be recommended. Even such rapid and violent fluctuations of light as those involved in the production of the moving picture are, in the long run, beneficial to all eyes. I always advise patients under treatment for the cure of defective vision to go to the movies frequently and practice central fixation. They soon become accustomed to the flickering light, and afterward other light and reflections cause less annoyance.

Reading is supposed to be one of the necessary evils of civilization; but it is believed that by avoiding fine print, and taking care to read only under certain favorable conditions, its deleterious influences can be minimized. Extensive investigations as to the effect of various styles of print on the eyesight of school children have been made, and detailed rules have been laid down as to the size of the print, its shading, the distance of

Shift on Tiny Parts of Small Objects Close to the Eyes.

Q. I cannot yet read or write easily without my glasses. Can I harm my eyes by trying to do so? P. A. C.

A. You cannot harm your eyes by reading and writing without glasses if you stop often to rest them by closing or palming. Even if the use of the eyes without glasses produces pain and fatigue the injury is less than from the wearing of the glasses.

Q. How can I relieve fatigue and nervousness while listening to the sermon in church?

A. Try swinging your thumbs over or round each other, or back and forth, and then reversing. One patient gets relief from swinging her big toe inside her shoe.

the letters from each other, the spaces between the lines, the length of the lines, etc. As regards the effects of different sorts of type on the human eye in general and those of children in particular, Dr. A. G. Young, in his much quoted report[1] to the Maine State Board of Health makes the following interesting observations:

Pearl, as the printers call it, is unfit for any eyes, yet the piles of Bibles and Testaments annually printed in it tempt many eyes to self-destruction.

Agate is the type in which a boy, to the writer's knowledge, undertook to read the Bible through. His outraged eyes broke down with asthenopia before he went far and could be used but little for school work the next two years.

Nonpareil is used in some papers and magazines for children, but, to spare the eyes, all such should, and do, go on the list of forbidden reading matter in those homes where the danger of such print is understood.

Minion is read by the healthy, normal young eye without appreciable difficulty, but even to the sound eye the danger of strain is so great that all books and magazines for children printed from it should be banished from the home and school.

Brevier is much used in newspapers, but is too small for magazines or books for young folks.

Bourgeois is much used in magazines, but should be used in only those school books to which a brief reference is made.

Long Primer is suitable for school readers for the higher and intermediate grades, and for text books generally.

Small Pica is still a more luxurious type, used in the North American Review and the Forum.

Pica is a good type for books for small children.

Great Primer should be used for the first reading book.

[1] Seventh Annual Report to the Maine State Board of Health, by the secretary, Dr. A. G. Young, 1891, p. 193.

Fine Print

By W. H. Bates, M.D.

MANY near-sighted patients can read fine print or diamond type at less than ten inches from their eyes, easily, perfectly, and quickly by alternately regarding the Snellen Test Card at different distances, from three feet up to fifteen feet or further. The vision may be improved, at first temporarily, and later by repetition, a permanent gain usually follows.

It is a valuable fact to know that when fine print is read perfectly, the near-sightedness disappears during this period. It can only be maintained at first for a fraction of a second, and later more continuously.

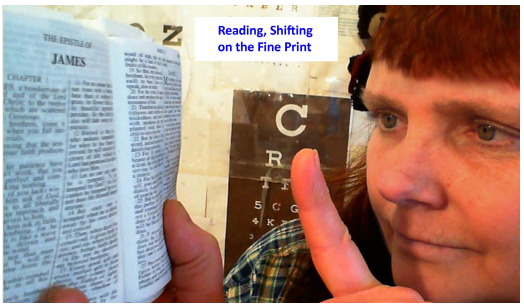
Near-sighted patients and others, with the help of the fine print can usually demonstrate that staring at a small letter always lowers the vision and that the same fact is true when regarding distant letters or objects.

With the help of the fine print, the near-sighted patient can also demonstrate that one can remember perfectly only what has been seen perfectly: that one imagines perfectly only what is remembered perfectly: and that perfect sight is only imagination.

A great many peopl[illegible]cious of the imagination and feel or b[illegible]magined are never true. The more i[illegible]tle less respect do they have for t[illegible]imagination of other people. It[illegible]t shock, with a feeling of disco[illegible]at the perfect imagination of [illegible]the sight for unknown letter[illegible]d.

It is a fact th[illegible]perfectly with a perfect relax[illegible]ye-strain, pain, fatigue and dis[illegible]eyes, but of all other nerves [illegible]

Regarding fi[illegible]read, is also of use in improvi[illegible]e Snellen Test Card, and the [illegible]oint in patients whose imperfe[illegible]matism, Hyper-metropia (far [illegible]ers.



WITHOUT glasses; Read fine and microscopic print daily for healthy eyes, clear eyesight at every age; childhood, teens to middle age (40's+) and senior, 100+ years. Fine print keeps the eyesight clear at reading distances, all close and far distances. It activates relaxation, tiny and saccadic eye movements, perfect central-fixation.

(Rip the sharp edges off the paper to avoid paper cuts on the eyes.)

Read the print close to the eyes; start where it is clear, then semi-clear. Arm's length, then to 20 inches, 10 inches and inward more and more to 3 inches. Practice with; Both eyes together, then one eye at a time, then both eyes together again.

Read the print at 2 to 1 inches, then 1/4th inch from the eyes and see the eyes act like a natural magnifier. Microscope vision! At about 3/4 inch and closer; the eyes are at maximum convergence, accommodation. Don't force it. Blink, relax, shift and let the eyes cross inward comfortably. At very close distances 'up to the eyelashes'; place the print in front of one eye. Like a child looks at and into a clear colored marble seeing the air bubbles, specks inside the glass. Patch the other eye. Alternate looking very close with the left eye, then the right, then left, right... for equal vision in the left, right eyes. End by reading with both eyes together again at 20 to 3, 2, 1, 3/4 inches.

20 to 6 inches is the common reading distance. Also practice at closer distances to maintain complete convergence-accommodation flexibility, clear eyesight at 6 inches and closer. Natural childhood vision. Read small and fine print farther than 20 inches. Look to the far distance occasionally to activate divergence, un-accommodation.

Read fine print in the sunlight and at night in the moonlight or under a streetlight. Seeing it clear in dim light indicates perfect eyesight! (The cones in the eyes' retina, central field turn off in very dim light. Some light is needed to activate the cones, see.)

Shifting, Switching on 2 different close distances using fine print and your finger. **Read the fine print. Then; place your finger between the print and eyes, in the central field-between the left and right eyes. Switch back and forth on the print and finger; Shift on the print for 1 to 5 seconds. Then shift on the finger for 1 to 5 seconds. Then shift on the print again, then finger, print... Practice with; Both eyes together. Then; with one eye at a time. If vision is less clear in one eye; do 10 seconds extra practice with that eye. Then; do 1-5 seconds practice with the clearest vision eye again to keep a balance. End; with both eyes together. Practice with the finger at closer and farther distances. Vary the distance of the print. Move the finger down if it blocks the eyes' view of the print. When you are ready to switch from the print to the finger; move the finger up, the fingertip even with the print. See picture. This practice removes tension in the eye's lens and the eye, restores their movement and full accommodation, convergence, focus/clarity for all close reading distances. It is similar to the *Correct Vision Habits Card* at the end of the book.**

If your finger/arm gets tired; replace the finger with a pencil placed upright in a box or other holder. Cap the pencil.

All this is directly contrary to my own experience. Children might be bored by books in excessively small print; but I have never seen any reason for supposing that their eyes or any other eyes, would be harmed by such type. On the contrary, the reading of fine print, when it can be done without discomfort, has invariably proved to be beneficial, and the dimmer the light in which it can be read, and the closer to the eyes it can be held, the greater the benefit. By this means severe pain in the eyes has been relieved in a few minutes or even instantly. The reason is that fine print cannot be read in a dim light and close to the eyes unless the eyes are relaxed, whereas large print can be read in a good light and at ordinary reading distance although the eyes may be under a strain. When fine print can be read under adverse conditions, the reading of ordinary print under ordinary conditions is vastly improved. In myopia it may be a benefit to strain to see fine print, because myopia is always lessened when there is a strain to see near objects, and this has sometimes counteracted the tendency to strain in looking at distant objects, which is always associated with the production of myopia. Even straining to see print so fine that it cannot be read is a benefit to some myopes,

Persons who wish to preserve their eyesight are frequently warned not to read in moving vehicles; but since under modern conditions of life many persons have to spend a large part of their time in moving vehicles, and many of them have no other time to read, it is useless to expect that they will ever discontinue the practice. Fortunately the theory of its injuriousness is not borne out by the facts. When the object regarded is moved more or less rapidly, strain and lowered vision are, at

Fine Print

By W. H. BATES, M.D.

MANY near-sighted patients can read fine print or diamond type at less than ten inches from their eyes, easily, perfectly, and quickly by alternately regarding the Snellen Test Card at different distances, from three feet up to fifteen feet or further. The vision may be improved, at first temporarily, and later by repetition, a permanent gain usually follows.

It is a valuable fact to know that when fine print is read perfectly, the near-sightedness disappears during this period. It can only be maintained at first for a fraction of a second, and later more continuously.

Near-sighted patients and others, with the help of the fine print can usually demonstrate that staring at a small letter always lowers the vision and that the same fact is true when regarding distant letters or objects.

With the help of the fine print, the near-sighted patient can also demonstrate that one can remember perfectly only what has been seen perfectly: that one imagines perfectly only what is remembered perfectly: and that perfect sight is only a perfect imagination.

A great many people are very suspicious of the imagination and feel or believe that things imagined are never true. The more ignorant the patient, the less respect do they have for their imagination or the imagination of other people. It comes to them as a great shock, with a feeling of discomfort and annoyance that the perfect imagination of a known letter improves the sight for unknown letters of the Snellen Test Card.

It is a fact that one can read fine print perfectly with a perfect relaxation, with great relief to eye-strain, pain, fatigue and discomfort, not only of the eyes, but of all other nerves of the body.

Regarding fine print, even when not read, is also of use in improving the distant vision of the Snellen Test Card, and the ability to read at a near point in patients whose imperfect sight is caused by Astigmatism, Hypermetropia (far sight), Presbyopia and others.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I DECEMBER, 1919 No. 6

THE MENACE OF LARGE PRINT

If you look at the big "C" on the Snellen test card (or any other large letter of the same size) at ten, fifteen, or twenty feet, and try to see it all alike, you may note a feeling of strain and the letter may not appear perfectly black and distinct. If you now look at only one part of the letter, and see the rest of it worse, you will note that the part seen best appears blacker than the whole letter when seen all alike, and you may also note a relief of strain. If you look at the small "e" on the bottom line of the test card, you may be able to note that it seems blacker than the big "C." If not, imagine it as forming part of the area of the big "C." If you are able to see this part blacker than the rest of the letter, the imagined letter will, of course, appear blacker also. If your sight is normal, you may now go a step further and note that when you look at one part of the small "e" this part looks blacker than the whole letter, and that it is easier to see the letter in this way than to see it all alike.

If you look at a line of the smaller letters that you can read readily, and try to see them all alike—all equally black and equally distinct in outline—you will probably find it to be impossible, and the effort will produce discomfort and, perhaps, pain. You may, however, succeed

in seeing two or more of them alike. This, too, may cause much discomfort, and if continued long enough, will produce pain. If you now look at only the first letter of the line, seeing the adjoining ones worse, the strain will at once be relieved, and the letter will appear blacker and more distinct than when it was seen equally well with the others.

If your sight is normal at the near-point, you can repeat these experiments with a letter seen at this point, with the same results. A number of letters seen equally well at one time will appear less black and less distinct than a single letter seen best, and a large letter will seem less black and distinct than a small one; while in the case of both the large letter and the several letters seen all alike, a feeling of strain may be produced in the eye. You may also be able to note that the reading of very fine print, when it can be done perfectly, is markedly restful to the eye.

The smaller the point of maximum vision, in short, the better the sight, and the less the strain upon the eye. This fact can usually be demonstrated in a few minutes by any one whose sight is not markedly imperfect; and in view of some of our educational methods, is very interesting and instructive.

Probably every man who has written a book upon the eye for the last hundred years has issued a warning against fine print in school books, and recommended particularly large print for small children. This advice has been followed so assiduously that one could probably not find a lesson book for small children anywhere printed in ordinary reading type, while alphabets are often printed in characters one and two inches high. The British Association for the Advancement of Science does not wish to see children read books at all before

they are seven years old, and would conduct their education previous to that age by means of large printed wall-sheets, blackboards, pictures, and oral teaching. If they must read, however, it wants them to have 24- and 30-point type, with capitals about a quarter of an inch in height. This is carefully graded down, a size smaller each year, until at the age of twelve the children are permitted to have the same kind of type as their elders. Bijou editions of Bible, prayer-book and hymnals are forbidden, however, to children of all ages.[1]

In the London myope classes, which have become the model for many others of the same kind, books are eliminated entirely, and only the older children are allowed to print their lessons in one- and two-inch types.[2]

Yet it has just been shown that large print is a strain upon the eyes, while the retinoscope demonstrates that a strain to see at the near-point always produces hypermetropia[3] (commonly but erroneously called "farsight"). We should naturally expect, therefore, to find hypermetropia very common among small children, and it is. Of children eight and a half years old in the public schools of Philadelphia, Risley found[4] that more than eighty-eight per cent were hypermetropic, and similar figures may be found in all statistics of the subject. The percentage declines as the children become older, but hypermetropia, or hypermetropic astigmatism, remains at all ages the most common of all errors of refraction. Hypermetropia is, in fact, a much more serious problem than myopia, or nearsight. Yet we have heard very little about it, for the specialists have concluded, from its prevalence and its tendency to pass away or become less pronounced

[1] Report on the Influence of School-Books upon Eyesight, second revised edition, 1913.
[2] Pollock: The Education of the Semi-Blind, Glasgow Med. Jour., Dec, 1913.
[3] Bates: The Cause of Myopia, N. Y. Med. Jour., March 10, 1912.
[4] School Hygiene, in System of Diseases of the Eye, edited by Norris and Oliver, vol. ii, p. 253.

with the growth of the body, that it is the normal state of the immature human eye and therefore beyond the reach of preventive measures. It is true that many young children are not hypermetropic, but this fact is easily disposed of by the theory that the ciliary muscle alters the shape of the lens in such cases sufficiently to compensate for the shortness of the eyeball.

The baselessness of this theory, as well as the relation of large print to the production of hypermetropia, may be demonstrated by the fact that the condition can be relieved, and has been relieved in numerous cases, by the reading of fine print, combined with rest of the eyes. A child of eight was cured in a few visits by this means. Yet according to the British Association she should not, at this age, have been allowed to read any type larger than 12-point, with capitals more than an eighth of an inch in height. Many grown people have been cured of hypermetropia in the same way, and in all forms of functional imperfect sight the reading of fine print, when it can be done with comfort, has been found to be a benefit to the eyes. Even straining to see fine print is sometimes a benefit in myopia.

SHIFTING AND SWINGING

When the eye with normal vision regards a letter either at the near-point or at the distance, the letter may appear to pulsate, or move in various directions, from side to side, up and down, or obliquely. When it looks from one letter to another on the Snellen test card, or from one side of a letter to another, not only the letters, but the whole line of letters and the whole card, may appear to move from side to side. This apparent movement is due to the shifting of the eye, and is always in a direction contrary to its movement. If one looks at the top of a letter, the letter is below the line of vision, and therefore appears to move downward. If one looks at the bottom, the letter is above the line of vision and appears to move upward. If one looks to the left of the letter, it is to the right of the line of vision and appears to move to the right. If one looks to the right, it is to the left of the line of vision and appears to move to the left. The shifting of the eye with normal vision is usually not conspicuous, but can always be demonstrated with the ophthalmoscope. It can always be demonstrated.

It is impossible for the eye to fix a point longer than a fraction of a second. If it tries to do so, it begins to strain and the vision is lowered. This can easily be demonstrated by trying to hold one part of a letter for an appreciable length of time. No matter how good the sight, it will begin to blur, or even disappear, very quickly, and sometimes the effort to hold it will produce pain. In the case of a few exceptional people a point may appear to be held for a considerable length of time; the subjects themselves may think that they are holding it; but this is only because the eye shifts unconsciously, the movements being so rapid that objects seem to be seen all alike simultaneously.

The shifting of the eye with normal vision is usually not conspicuous, but can always be demonstrated with the ophthalmoscope. It can always be demonstrated.

FIG. 1. Instrument for demonstrating the shifting movement of the eye. The letter appears to move in the opposite direction to the movement of the eye. The movements are not apparent when only the exterior of the eye is regarded.

Seven Truths of Normal Sight

1. Normal Sight can always be demonstrated in the normal eye, but only under favorable conditions.
2. Central Fixation: The letter or part of the letter regarded is always seen best.
3. Shifting: The point regarded changes rapidly and continuously.
4. Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions with a pendulum-like motion.
5. Memory is perfect. The color and background of the letters or other objects seen, are remembered perfectly, instantaneously and continuously.
6. Imagination is good One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size, or form, of the letters.
7. Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

Fig. 49. Specimen of Diamond Type

Many patients have been greatly benefited by reading type of this size.

Fig. 50. Photographic Type Reduction

Patients who can read photographic type reductions are instantly relieved of pain and discomfort when they do so, and those who cannot read such type may be benefited simply by looking at it.

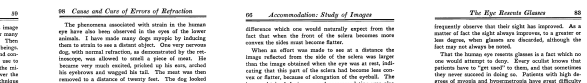
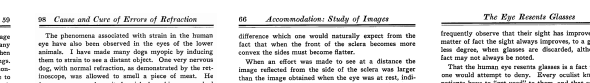


FIG. 50. PHOTOGRAPHIC TYPE REDUCTION

Patients who can read photographic type reductions are instantly relieved of pain and discomfort when they do so, and those who cannot read such type may be benefited simply by trying to read it.



first, always produced; but this is always temporary, and ultimately the vision is improved by the practice.

There is probably no visual habit against which we have been more persistently warned than that of reading in a recumbent posture. Many plausible reasons have been adduced for its supposed injuriousness; but so delightful is the practice that few, probably, have ever been deterred from it by fear of the consequences. It is gratifying to be able to state, therefore, that I have found these consequences to be benefical rather than injurious. As in the case of the use of the eyes under other difficult conditions, it is a good thing to be able to read lying down, and the ability to do it improves with practice. In an upright position, with a good light coming over the left shoulder, one can read with the eyes under a considerable degree of strain; but in a recumbent posture, with the light and the angle of the page to the eye unfavorable, one cannot read unless one relaxes. Anyone who can read lying down without discomfort is not likely to have any difficulty in reading under ordinary conditions.

The fact is that vision under difficult conditions is good mental training. The mind may be disturbed at first by the unfavorable environment; but after it has become accustomed to such environments, the mental control, and, consequently, the eyesight are improved. To advise against using the eyes under unfavorable conditions is like telling a person who has been in bed for a few weeks and finds it difficult to walk to refrain from such exercise. Of course, discretion must be used in both cases. The convalescent must not at once try to run a Marathon, nor must the person with defective vision attempt, without some preparation, to outstare the

The Correct, Relaxed Natural Vision Habits Card is placed at the end of the book on the back of an eyechart page. Print a copy. Assemble; Cut along the dotted lines on the picture. Pop up the 3 sections. Place the E's on the 3 pop-up sections in a straight line, between the left and right eyes, at eye level, in the central field. (See pictures below and end of the book.) Practice only *Plain* Switching; A - 8 Steps on pg. 409. Do not use Secret Switching #1 and #2 with this card.

An Accommodation, convergence, un-accommodation, divergence practice; *Shifting on and Switching back and forth on objects at 3 different close distances and to-from objects at a variety of close, middle and far distances.*

This returns movement, circulation to the eyes' lens and its ciliary muscle, ciliary body, the iris, pupil, outer eye muscles and all areas of the eye. Hydration, fluid flow, nutrients and full mobility is restored to the lens, areas near-attached to the lens and the entire eye. It also perfects the change in the shape of the lens, eyeball and pupil during accommodation, convergence, un-accommodation, divergence when looking at close, middle and far distances. Balanced, perfect eye movement 'shifting', convergence, divergence... occurs.

Light ray refraction is perfect and the eye's focus-readjustment to new distances, objects is fast; vision remains clear when changing to a close, middle or far distance and shifting on a object and to other objects.

The eye lengthens when looking close. It returns to a round shape when looking far.

***The lens thickens (lengthens) when looking close. It returns to a thin shape when looking far.* Pg. 13-14.**

The eye's pupil changes size to focus light rays; The pupil constricts-becomes smaller when looking at a close distance; when the eyes converge, accommodate. The pupil returns to its normal size when looking far.

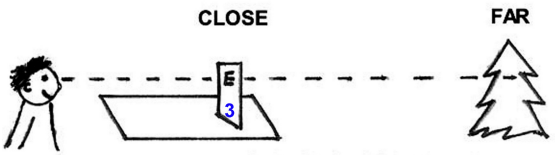
The pupil is larger in darkness; to bring more light into the eye. The pupil is smaller in sunlight. Emotions 'love, fear'..., certain physical feelings occurring with thought-emotion affect pupil size. Drugs, alcohol affect its size.

Switching on the 3 E's on the card, and to far objects, reading fine print, using the Bates Method - *shifting, central-fixation, swinging, movement, relaxation, blinking, breathing, memory, imagination, palming, sunlight...* and avoiding eyeglasses, magnifiers; produces clear reading vision, clear close and far vision, reverses and prevents cataract, presbyopia, myopia, other eye-vision problems.

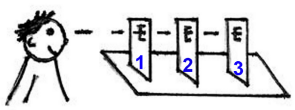
Correct, Relaxed Natural Vision Habits Card

Practice shifting, switching on close and far objects placed 1 to 7, 12, 20... inches apart for clear reading, close vision. Practice with the card sections #1, 2, 3 placed at a variety of different close distances. Practice with the card and far distant objects.

CUT ALONG THE DOTTED LINES AND BEND THE POPUP SECTIONS UP.



Practice with; both eyes together, one eye at a time, then both eyes together again.



PLACE THE 3 E'S AT EYE LEVEL, BETWEEN THE EYES, IN THE CENTER OF THE VISUAL FIELD. SWITCH BACK AND FORTH ON THE E'S; 1, 2, 3.

Practice shifting on small parts of a flower, stone... close to the eyes.

Read Fine Print on the back of the card.

Print 3 sizes of type; Fine, Diamond & Microscopic. Tape it to the back of the card. Read it daily in the sun and at night in lower light as is comfortable.

sun at noonday. But just as the invalid may gradually increase his strength until the Marathon has no terrors for him, so may the eye with defective sight be educated until all the rules with which we have so long allowed ourselves to be harassed in the name of "eye hygiene" may be disregarded, not only with safety but with benefit.

Seven Truths of Normal Sight

1. Normal Sight can always be demonstrated in the normal eye, but only under favorable conditions.
2. Central Fixation: The letter or part of the letter regarded is always seen best.
3. Shifting: The point regarded changes rapidly and continuously.
4. Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions with a pendulum-like motion.
5. Memory is perfect. The color and background of the letters or other objects seen, are remembered perfectly, instantaneously and continuously.
6. Imagination is good One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size, or form, of the letters.
7. Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

Seven Truths of Normal Sight

1--Normal Sight can always be demonstrated in the normal eye, but only under favorable conditions
2--Central Fixation: The letter or part of the letter regarded is always seen best.
3--Shifting: The point regarded changes rapidly and continuously.
4--Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions, with a pendulum-like motion.
5--Memory is perfect. The color and background of the letters, or other objects seen, are remembered perfectly, instantaneously and continuously.
6--Imagination is good. One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size, or form, of the letters.
7--Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

PRESBYOPIA

DURING the war a great many women received treatment for their eyes. Many of them were employed in factories where American flags were manufactured and some of them could not see to do their work properly. Some had trouble in threading their needles, others complained that they saw double. One woman told me that she sometimes stitched her fingers in the blue field of the flag along with the stars. All of them asked for glasses, of course, but with the exception of a few, they were glad to be cured without them.

Among the patients was a woman about fifty who was very anxious to be cured. She spoke with a pronounced Irish accent, which amused the patients. Her distant vision was quickly improved by palming and flashing the letters on the Snellen test card. Then I gave her a card with fine print, and told her to hold it six inches from her eyes. Even though she did not see the letters, it would help her to alternately rest her eyes by closing them for a few minutes. She obtained good results immediately, and was enthusiastic in her appreciation.

"Sure, ma'am, may the good angels bless you for that!" she exclaimed. "I think this very minute I would be threadin' a needle if I had one. Me old man and the young ones at home will think it foine to have meself threadin' a needle."

It seemed that members of her family had been called upon to do this for her, and had found the task somewhat irksome.

The next clinic day she came again, and, although it was afternoon, she greeted me boisterously with the Irish salutation:

"Top o' the mornin' to you!"

"Top o' the mornin' to yourself," said I.

The patients all smiled at her remark. It does me good to see these poor unfortunate people smile a little, and I think it must cheer them, too.

She soon became able to thread her needle without any trouble, and she wanted everyone in the room to know it. The last time I saw her she said:

"Sure, ma'am, me eyes are very sharp now, for the minute I set eyes on me man when he comes home at night, I can tell by the twinkle in his eye whither he has had anything stronger than water or tay."

By Emily C. Lierman,
From her book *Stories From The Clinic*

CHAPTER XVIII

OPTIMUMS AND PESSIMUMS

IN nearly all cases of imperfect sight due to errors of refraction there is some object, or objects, which can be regarded with normal vision. Such objects I have called "optimums." On the other hand, there are some objects which persons with normal eyes and ordinarily normal sight always see imperfectly, an error of refraction being produced when they are regarded, as demonstrated by the retinoscope. Such objects I have called "pessimums." An object becomes an optimum, or a pessimum, according to the effect it produces upon the mind, and in some cases this effect is easily accounted for.

For many children their mother's face is an optimum, and the face of a stranger a pessimum. A dressmaker was always able to thread a No. 10 needle with a fine thread of silk without glasses, although she had to put on glasses to sew on buttons, because she could not see the holes. She was a teacher of dressmaking, and thought the children stupid because they could not tell the difference between two different shades of black. She could match colors without comparing the samples. Yet she could not see a black line in a photographic copy of the Bible which was no finer than a thread of silk, and she could not remember a black period. An employee in a cooperage factory, who had been engaged for years in picking out defective barrels as they went rapidly past him on an inclined plane, was able to continue his work

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE FREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company
Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. 1 DECEMBER, 1919 No. 6

THE MENACE OF LARGE PRINT

If you look at the big "C" on the Snellen test card (or any other large letter of the same size) at ten, fifteen, or twenty feet, and try to see it all alike, you may note a feeling of strain and the letter may not appear perfectly black and distinct. If you now look at only one part of the letter, and see the rest of it worse, you will note that the part seen best appears blacker than the whole letter when seen all alike, and you may also note a relief of strain. If you look at the small "c" on the bottom line of the test card, you may be able to note that it seems blacker than the big "C." If not, imagine it as forming part of the area of the big "C." If you are able to see this part blacker than the rest of the letter, the imagined letter will, of course, appear blacker also. If your sight is normal, you may now go a step further and note that when you look at one part of the small "c" this part looks blacker than the whole letter, and that it is easier to see the letter in this way than to see it all alike.

If you look at a line of the smaller letters that you can read readily, and try to see them all alike—all equally black and equally distinct in outline—you will probably find it to be impossible, and the effort will produce discomfort and, perhaps, pain. You may, however, succeed

< The small print on the left and the following two pages are photos of pages from Dr. Bates Better Eyesight Magazine. They describe why small and fine print produce clear eyesight and why large print causes strain, unclear eyesight.

Includes directions for seeing the eyechart letters clear.

These additional practices, pictures placed under some of Dr. Bates book pages can be read now or after the chapter, book is read.

after his sight for most other objects had become very defective, while persons with much better sight for the Snellen test card were unable to detect the defective barrels. The familiarity of these various objects made it possible for the subjects to look at them without strain—that is, without trying to see them. Therefore the barrels were to the cooper optimums; while the needle's eye and the colors of silk and fabrics were optimums to the dressmaker. Unfamiliar objects, on the contrary, are always pessimums, as pointed out in the chapter on "The Variability of the Refraction of the Eye."

In other cases there is no accounting for the idiosyncrasy of the mind which makes one object a pessimum and another an optimum. It is also impossible to account for the fact that an object may be an optimum for one eye and not for the other, or an optimum at one time and at one distance and not at others. Among these unaccountable optimums one often finds a particular letter on the Snellen test card. One patient, for instance, was able to see the letter K on the forty, fifteen and ten lines, but could see none of the other letters on these lines, although most patients would see some of them, on account of the simplicity of their outlines, better than they would such a letter as K.

Pessimums may be as curious and unaccountable as optimums. The letter V is so simple in its outlines that many people can see it when they cannot see others on the same line. Yet some people are unable to distinguish it at any distance, although able to read other letters in the same word, or on the same line of the Snellen test card. Some people again will not only be unable to recognize the letter V in a word, but also to read any word that contains it, the pessimum lowering their sight not

in seeing two or more of them alike. This, too, may cause much discomfort, and if continued long enough, will produce pain. If you now look at only the first letter of the line, seeing the adjoining ones worse, the strain will at once be relieved, and the letter will appear blacker and more distinct than when it was seen equally well with the others.

If your sight is normal at the near-point, you can repeat these experiments with a letter seen at this point, with the same results. A number of letters seen equally well at one time will appear less black and less distinct than a single letter seen best, and a large letter will seem less black and distinct than a small one; while in the case of both the large letter and the several letters seen all alike, a feeling of strain may be produced in the eye. You may also be able to note that the reading of very fine print, when it can be done perfectly, is markedly restful to the eye.

The smaller the point of maximum vision, in short, the better the sight, and the less the strain upon the eye. This fact can usually be demonstrated in a few minutes by any one whose sight is not markedly imperfect; and in view of some of our educational methods, is very interesting and instructive.

Probably every man who has written a book upon the eye for the last hundred years has issued a warning against fine print in school books, and recommended particularly large print for small children. This advice has been followed so assiduously that one could probably not find a lesson book for small children anywhere printed in ordinary reading type, while alphabets are often printed in characters one and two inches high. The British Association for the Advancement of Science does not wish to see children read books at all before they are seven years old, and would conduct their education previous to that age by means of large printed wall-sheets, blackboards, pictures, and oral teaching. If they must read, however, it wants them to have 24- and 30-point type, with capitals about a quarter of an inch in height. This is carefully graded down, a size smaller each year, until at the age of twelve the children are permitted to have the same kind of type as their elders. Bijou editions of Bible, prayer-book and hymnals are forbidden, however, to children of all ages.[1]

In the London myope classes, which have become the model for many others of the same kind, books are eliminated entirely, and only the older children are allowed to print their lessons in one- and two-inch types.[2]

Yet it has just been shown that large print is a strain upon the eyes, while the retinoscope demonstrates that a strain to see at the near-point always produces hypermetropia[3] (commonly but erroneously called "farsight"). We should naturally expect, therefore, to find hypermetropia very common among small children; and it is. Of children eight and a half years old in the public schools of Philadelphia, Risley found[4] that more than eighty-eight per cent were hypermetropic, and similar figures may be found in all statistics of the subject. The percentage declines as the children become older, but hypermetropia, or hypermetropic astigmatism, remains at all ages the most common of all errors of refraction. Hypermetropia is, in fact, a much more serious problem than myopia, or nearsight. Yet we have heard very little about it, for the specialists have concluded, from its prevalence and its tendency to pass away or become less pronounced

[1] Report on the Influence of School-Books upon Eyesight, second revised edition, 1913.
[2] Pollock: The Education of the Semi-Blind, Glasgow Med. Jour., Dec., 1915.
[3] Bates: The Cause of Myopia, N. Y. Med. Jour., March 10, 1912.
[4] School Hygiene, in System of Diseases of the Eye, edited by Norris and Oliver, vol. ii, p. 353.

only for itself but for other objects. Some letters, or objects, become pessimums only in particular situations. A letter, for instance, may be a pessimum when located at the end or at the beginning of a line or sentence, and not in other places. When the attention of the patient is called to the fact that a letter seen in one location ought logically to be seen equally well in others, the letter often ceases to be a pessimum in any situation.

A pessimum, like an optimum, may be lost and later become manifest. It may vary according to the light and distance. An object which is a pessimum in a moderate light may not be so when the light is increased or diminished. A pessimum at twenty feet may not be one at two feet, or thirty feet, and an object which is a pessimum when directly regarded may be seen with normal vision in the eccentric field.

For most people the Snellen test card is a pessimum. If you can see the Snellen test card with normal vision, you can see almost anything else in the world. Patients who cannot see the letters on the Snellen test card can often see other objects of the same size and at the same distance with normal sight. When letters which are seen imperfectly, or even letters which cannot be seen at all, or which the patient is not conscious of seeing are regarded, the error of refraction is increased. The patient may regard a blank white card without any error of refraction; but if he regards the lower part of a Snellen test card, which appears to him to be just as blank as the blank card, an error of refraction can always be demonstrated, and if the visible letters of the card are covered, the result is the same. The pessimum may, in short, be letters or objects which the patient is not conscious of seeing. This phenomenon is very common. When the

with the growth of the body, that it is the normal state of the immature human eye and therefore beyond the reach of preventive measures. It is true that many young children are not hypermetropic, but this fact is easily disposed of by the theory that the ciliary muscle alters the shape of the lens in such cases sufficiently to compensate for the shortness of the eyeball.

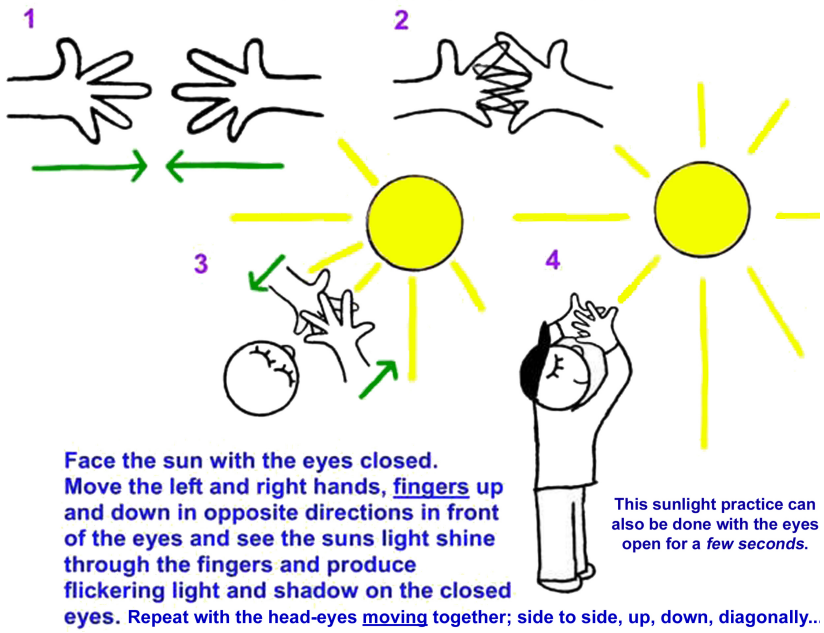
The baselessness of this theory, as well as the relation of large print to the production of hypermetropia, may be demonstrated by the fact that the condition can be relieved, and has been relieved in numerous cases, by the reading of fine print, combined with rest of the eyes. A child of eight was cured in a few visits by this means. Yet according to the British Association she should not, at this age, have been allowed to read any type larger than 12-point, with capitals more than an eighth of an inch in height. Many grown people have been cured of hypermetropia in the same way, and in all forms of functional imperfect sight the reading of fine print, when it can be done with comfort, has been found to be a benefit to the eyes. Even straining to see fine print is sometimes a benefit in myopia.

card is seen in the eccentric field it may have the effect of lowering the vision for the point directly regarded. For instance, a patient may regard an area of green wall-paper at the distance, and see the color as well as at the near-point; but if a Snellen test card on which the letters are either seen imperfectly, or not seen at all, is placed in the neighborhood of the area being regarded, the retinoscope may indicate an error of refraction. When the vision improves, the number of letters on the card which are pessimums diminishes and the number of optimums increases, until the whole card becomes an optimum.

A pessimum, like an optimum, is a manifestation of the mind. It is something associated with a strain to see, just as an optimum is something which has no such association. It is not caused by the error of refraction, but always produces an error of refraction; and when the strain has been relieved it ceases to be a pessimum and becomes an optimum.

Palms of hands toward the face. Fingers apart, relaxed.

Move the fingers/hands in front of each other, not touching, not interlocked. The hands are about 1-2 inches apart. Hand closest to the face is 4-5 inches from the eyes.
Fingers are in front of the eyes.



Face the sun with the eyes closed. Move the left and right hands, fingers up and down in opposite directions in front of the eyes and see the suns light shine through the fingers and produce flickering light and shadow on the closed eyes. Repeat with the head-eyes moving together; side to side, up, down, diagonally..

This sunlight practice can also be done with the eyes open for a *few seconds*.

The hands-fingers can move against eachother; up and down, left and right, diagonally.

See the *Opposite Swing* on Closed and Open Eyes

To see the opposite swing; Move the hands-fingers against eachother and keep the hands at the position shown in the picture. Turn only the head and eyes side to side; move the head and eyes left and right across the sun, hands. The sun, flickering light and shadows appear to move opposite of the eyes, head movement. As you move left and right; see the flickering light, shadows from the sun, hands move from one side of the face, across the central field, to the other side;

When moving the head-eyes to the < left; the light, shadows move to the right > .

When moving the head-eyes to the right > ; the light, shadows move to the left <.

Occasionally stop in the middle, face the moving light, shadows and see them stay in the central.

Saccadic Sunning

This is the same effect seen, felt when looking at the bright sky, sunlight shining through the leaves of a tree when walking, swaying or just facing the tree, leaves on a windy day. See the sunshine 'light and shadows' move, flicker on the eyes.

Practice with the eyes closed, and a few seconds occasionally with the eyes open. Keep the eyes, head moving. Blink when the eyes are open. The same effect occurs when facing and walking past a picket fence letting the sunlight shine, move on the face, eyes through the rungs. Also seen when facing the bright sky through the trees passing by when looking out the side window of a moving car.

Saccadic Sunning improves eye movement, saccades, activates the retina, light receptors, relaxation. It is a gentle massage for the eyes, mind, body, improves many visual system functions.

Epileptics prone to seizures from flashing lights should not practice saccadic sunning.

All other people may practice.

CHAPTER XIX

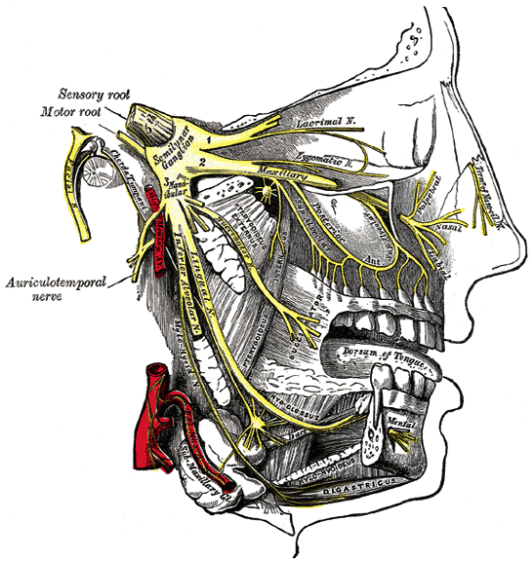
THE RELIEF OF PAIN AND OTHER SYMPTOMS BY THE AID OF THE MEMORY

MANY years ago patients who had been cured of imperfect sight by treatment without glasses quite often told me that after their vision had become perfect they were always relieved of pain, not only in the eyes and head, but in other parts of the body, even when the pain was apparently caused by some organic disease, or by an injury. The relief in many cases was so striking that I investigated some thousands of cases and found it to be a fact that persons with perfect sight, or the memory of perfect sight—that is, of something perfectly seen—do not suffer pain in any part of the body, while by a strain or effort to see I have produced pain in various parts of the body.

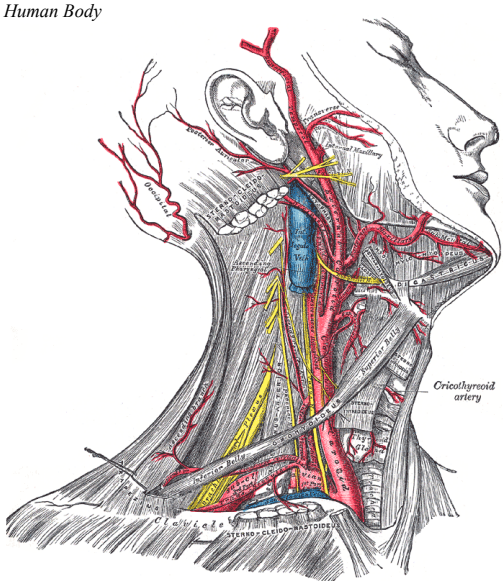
By perfect sight is not meant, necessarily, the perfect visual perception of words, letters, or objects, of a more or less complicated form. To see perfectly the color alone is sufficient, and the easiest color to see perfectly is black. But perfect sight is never continuous, careful scientific tests having shown that it is seldom maintained for more than a few minutes and usually not so long. For practical purposes in the relief of pain, therefore, the memory is more satisfactory than sight.

When black is remembered perfectly a temporary, if not a permanent, relief of pain always results. The skin may be pricked with a sharp instrument without causing discomfort. The lobe of the ear may be pinched be-

Pictures from; *Anatomy Of The Human Body*



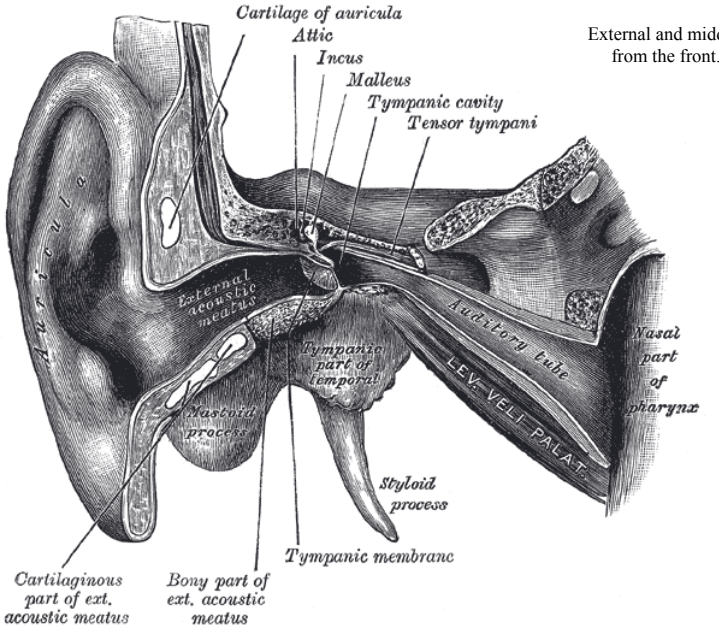
Distribution of the maxillary and mandibular nerves, and the submaxillary ganglion.



Superficial dissection of the right side of the neck, showing the carotid and subclavian arteries.

tween the nails of the thumb and first finger, and no pain will be felt. At the same time the sense of touch becomes more acute. The senses of taste, smell and hearing are also improved, while the efficiency of the mind is increased. The ability to distinguish different temperatures is increased, but one does not suffer from heat or cold. Organic conditions may not be changed; but all of the functional symptoms, such as fever, weakness, and shock, which these conditions cause, are relieved. Patients who have learned to remember black under all circumstances no longer dread to visit the dentist. When they remember a period the drill causes them no pain, and they are not annoyed even by the extraction of teeth. It is possible to perform surgical operations without anaesthetics when the patient is able to remember black perfectly. The following are only a few of many equally striking cases which might be given of the relief or prevention of pain by this means:

A patient suffered from ulceration of the eyeball, occurring at different times and resulting in the formation of holes through which the fluids in the interior escaped. These openings had to be closed by surgical operations. At first these operations were performed under the influence of cocaine; but the progressive disease of the eye caused so much congestion that complete anaesthesia was no longer attainable by the use of this drug, and ether and chloroform were employed. As so many operations were needed, it became desirable to get along, if possible, without anaesthetics, and the patient's success in relieving pain by the memory of black suggested that she might also be able to prevent the pain of operations in the same way. Her ability to do this was tested by touching her eyeball lightly with a blunt probe. At first she forgot the



External and middle ear, opened from the front. Right side.

Dr. Bates is a Eye, Ear, Nose and Throat doctor. He often noted; when the eyesight, central-fixation, shifting eye movement, posture and other functions of the visual system improve; the ear functions - hearing, balance and other senses also improve.

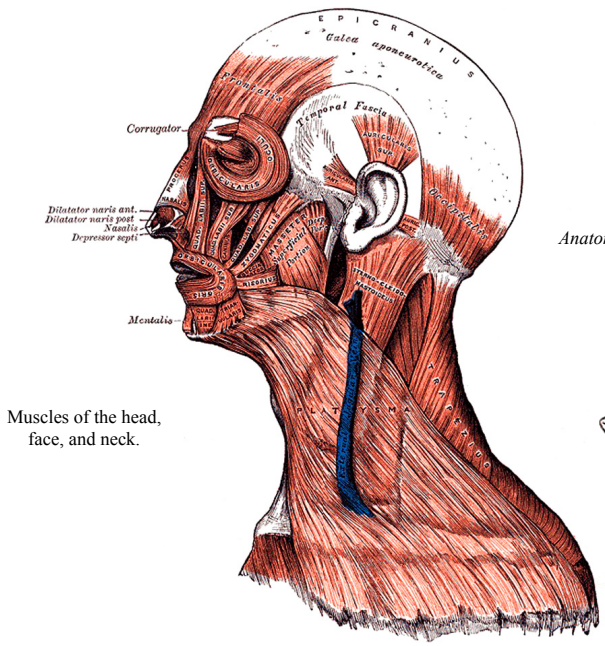
Picture from; *Anatomy Of The Human Body*

black as soon as the probe touched her eye, but later she became able to remember it. The operation was then successfully performed; the patient not only felt no pain,

Fig. 51. Operating Without Anaesthetics

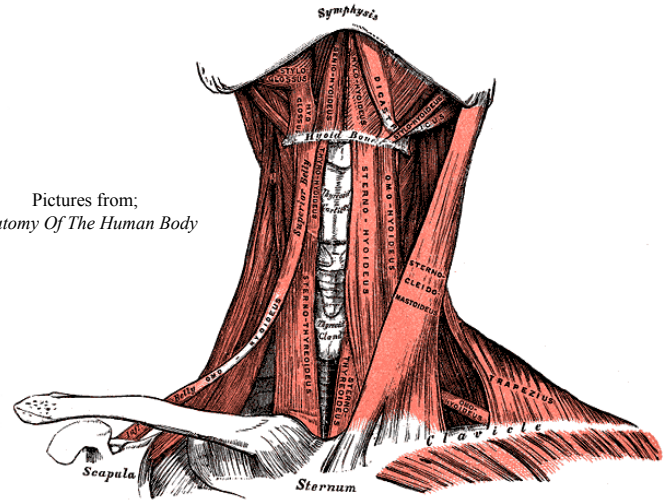
The patient suffered from ulceration of the eyeball resulting in the formation of holes through which the fluids of the interior escaped. These holes had to be closed by surgical operations, and fourteen of these operations were performed without anaesthetics, because the patient was able to prevent pain by the memory of a black period.

but her self-control was better than when cocaine had been used. Later fourteen more operations were performed under the same conditions, the patient not only



Muscles of the head, face, and neck.

Pictures from;
Anatomy Of The Human Body

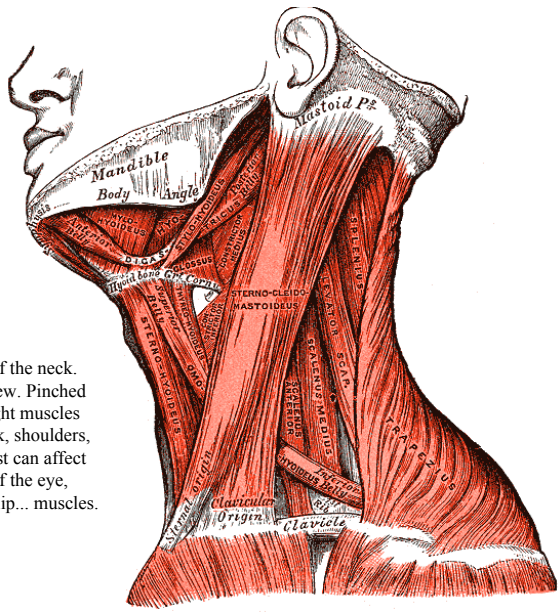


Muscles of the neck. Anterior view. Massage to relax the muscles in the shoulders, neck, head and back automatically relaxes the eye muscles, (outer oblique, recti... and inner ciliary (lens), iris. This improves their function, produces clear eyesight.

suffering no pain, but, what was more remarkable, feeling no pain or soreness afterward. The patient stated that if she had been operated upon by a stranger she would probably have been so nervous that she would not have been able to remember the black; but later she was treated by a strange dentist, who made two extractions and did some other work, all without causing her any discomfort, because she was able to remember the period perfectly.

A man who had been extremely nervous in the dentist's chair, and had had four extractions made under gas, surprised his dentist, after having learned the effect of the memory of a period in relieving pain, by having a tooth extracted without cocaine, gas, or chloroform. The dentist complimented him on his nerve and looked incredulous when the patient said he had felt no pain at all. In a second case, that of a woman, the dentist removed the nerve from three teeth without causing the patient any pain.

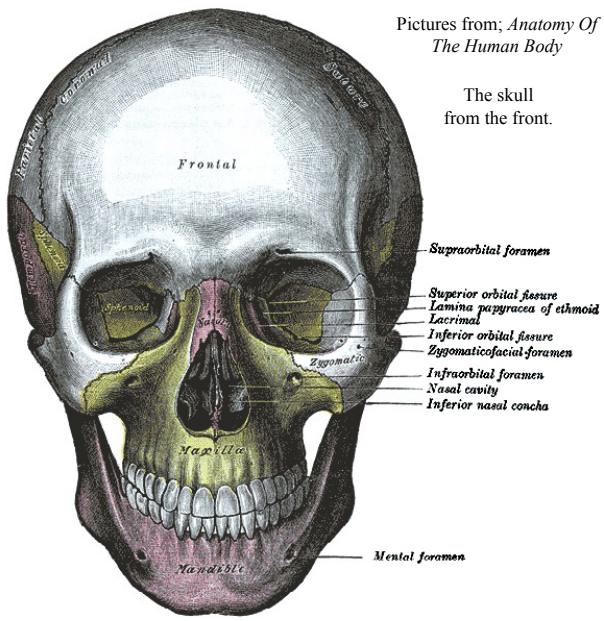
A boy of fourteen came to the eye clinic of the Harlem Hospital, New York, with a foreign body deeply embedded in his cornea. It caused him much pain, and his mother stated that a number of physicians had been unable to remove it, because the child was so nervous that he could not keep still long enough, although cocaine had been used quite freely. The boy was told to look at a black object, close and cover his eyes, and think of the black object until he saw black. He was soon able to do this, and the pain in his eye was relieved. He was next taught to remember the black with his eyes open. The foreign body was then removed from the cornea. The operation was one of much difficulty and required considerable time, but the boy felt no pain. While it was



Muscles of the neck. Lateral view. Pinched nerves, tight muscles in the neck, shoulders, upper chest can affect function of the eye, ear, face, lip... muscles.

Pictures from; *Anatomy Of The Human Body*

The skull from the front.



in progress he was asked if he was still remembering black.

"You bet I am," he replied.

In the same hospital a surgeon from the accident ward visited the eye clinic with a friend suffering from pain in his eyes and head. The patient was benefited very quickly by relaxation methods. The surgeon said it was unusual, and spoke slightingly of my methods. I challenged him to bring me a patient with pain that I could not relieve in five minutes.

"All right," he said. "I want you to understand that I am from Missouri."

He returned soon with a woman who had been suffering from severe pains in her head for several years. She had been operated upon a number of times, and had been under the care of the hospital for many months.

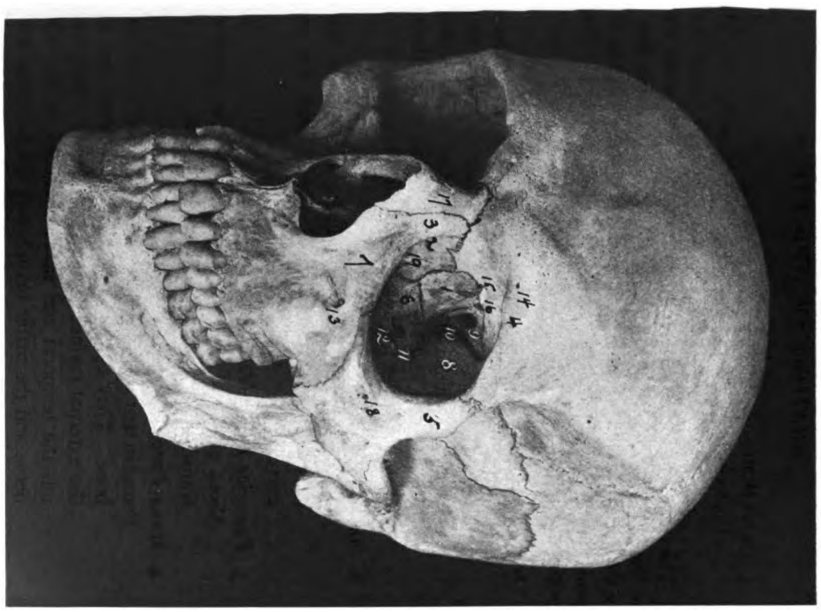
"You cannot help the pain in this patient's head," said the surgeon, "because she has a brain tumor."

I doubted the existence of a brain tumor, but I said: "Brain tumor or no brain tumor, my assistant will stop the pain in five minutes."

He took out his watch, opened it, looked at the time, and told my assistant to go ahead. The patient was directed to look at a large black letter, note its blackness, then to cover her closed eyes with the palms of her hands, shutting out all the light, and to remember the blackness of the letter until she saw everything black. In less than three minutes she said:

"I now see everything perfectly black. I feel no pain in my head. I am completely relieved, and I thank you very much."

The surgeon looked bewildered, and left the room without a word.



SKULL AND ORBITS. (Cryer.)

1, Os planum of ethmoid; 2, lacrymal; 3, nasal process of superior maxillary; 4, frontal bone (supra-orbital ridge); 5, malar (part of infra-orbital ridge); 6, orbital process of superior maxillary; 7, superior maxillary (part of infra-orbital ridge); 8, orbital process of sphenoid; 9, lesser wing of sphenoid and optic foramen; 10, sphenoidal fissure or anterior lacerated foramen; 11, spheno-maxillary fissure; 12, infra-orbital groove; 13, infra-orbital foramen; 14, supra-orbital foramen; 15, anterior ethmoidal foramen; 16, posterior ethmoidal foramen; 17, nasal bone; 18, malar foramen; 19, lacrymal canal.

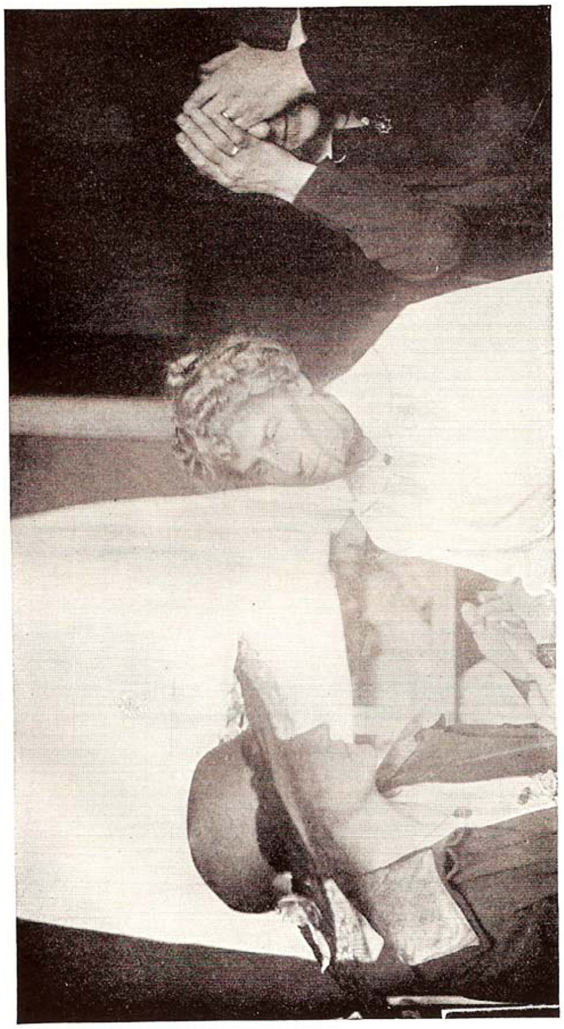


Fig. 52. Neuralgia Relieved by Palming and the Memory of Black

While the visitor was explaining to her sceptical hostess the method of relieving pain by palming and the memory of black, another member of the family, who was suffering from trigeminal neuralgia, came in, and having heard what was being said, immediately put it into practice and was cured. The hostess later developed severe pain in her head and eyes, and did not obtain any relief until she also practiced palming and the memory of black.

Long Swing and Sway Movement, Relaxation from Dr. Bates Better Eyesight Magazine;

***Long Swing*; The patient stands with the feet about 12 inches apart and turns the body to the right, and to promote this movement, at the same time lifting the heel of the left foot a few inches from the floor. The head, shoulders and eyes move with the movement of the body. The head is not turned on the shoulders, and the eyes are not moved in the head. (the head, eyes, shoulders and body all *move together* in the same direction.) The whole movement is brought about by turning the body until the shoulders, body, head and eyes are square with the right hand wall.**

Now place the left heel on the floor. Then the body is turned to the left, the right heel is lifted a few inches from the floor. The body is turned until the shoulders, body, head, eyes are square with the left wall. Alternate left, right, left...

(*Note*; the foot with its heel down on the floor does not need to point its toes exactly at the wall you're facing. Let it move naturally and it will move-face the correct amount needed for comfort, perfect balance, with no stress on the ankle.)

When doing the Long Swing; Do not pay any attention to the apparent movement of stationary objects. It is very important that moving objects are not observed closely: do not try to see clearly objects which are moving. Objects in front of you move in the opposite direction so rapidly that you do not see them clearly. Do not try to see them because that stops the apparent movement. Stationary objects appear to move opposite of your movement. Don't stop to look at them. Just relax and keep swinging.

Pain and fatigue are relieved promptly while practicing this swing. When done correctly, relief is felt in a short time.

Doing a shorter and shorter swinging movement can bring perfect sight and complete relief of pain; turn the Long Swing into a Sway, then shorter and shorter sway while seeing the opposite swing. Then do small shifts on a small object and see a small swing. Then do tiny shifts on a tiny object, fine print letter, microscopic letter, a period and see a tiny swing.

The long swing is a benefit to imperfect sight. The central vision is improved, and what is also unusual, the long swing improves the field of vision. It improves night blindness, it improves day blindness. The long swing has improved opacities of the cornea so dense, that vision was reduced to perception of light. Yet, although the opacity of the cornea was so dense in some cases, that the pupil could not be seen, it would clear and the vision become normal after some weeks or months. The long swing also helps glaucoma, cataract, diseases of the optic nerve, diseases of the choroid, detachment of the retina. One needs a sufficient amount of light in order to practice the long swing.

The long swing, when done before retiring, lessens eyestrain during sleep. I usually advise patients to practice this right and left swing one hundred times morning and night, counting one to the right, two to the left, and so on.

See page 163, 170-172, 399, page 352 and other pages in the fine print section, the eyecharts chapter and the back of the eyechart pages at the end of the book for more swing, sway, shifting practice. Page 322 describes the different types, speed, direction of the swing of opposite movement and how to see that opposite swing with a tiny shift of the eyes 'vision' looking at a far object 200 feet to miles away into infinity. Extra clarification for moving the head, body with the eyes.

To prevent a relapse, the patient was advised to palm six times a day or oftener. The pain did not return, and she came to the clinic some weeks later to express her gratitude.

Not only does the memory of perfect sight relieve pain and the symptoms of disease, but in some cases it produces manifest relief of the causes of these symptoms. Coughs, colds, hay fever, rheumatism and glaucoma are among the conditions that have been relieved in this way.

A patient under treatment for imperfect sight from a high degree of mixed astigmatism one day came to the office with a severe cold. She coughed continually, and there was a profuse discharge from both eyes and nose. There was some fever, with a severe pain in the eyes and head, and the patient was unable to breathe through her nose because of the inflammatory swelling. Palming was successful in half an hour, when the pain and discharge ceased, the nose opened, and the breathing and temperature became normal. The benefit was permanent—a very unusual thing after one treatment.

A boy of four with whooping-cough was always relieved by covering his eyes and remembering black. The relapses became less frequent, and in a few weeks he had completely recovered.

A man who suffered every summer from attacks of hay fever, beginning in June and lasting throughout the season was completely relieved by palming for half an hour; and after three years there had been no relapse.

A man of sixty-five who had been under treatment for rheumatism for six months without improvement obtained temporary relief by palming, and by the time his vision had become normal the relief of the rheumatism was complete.

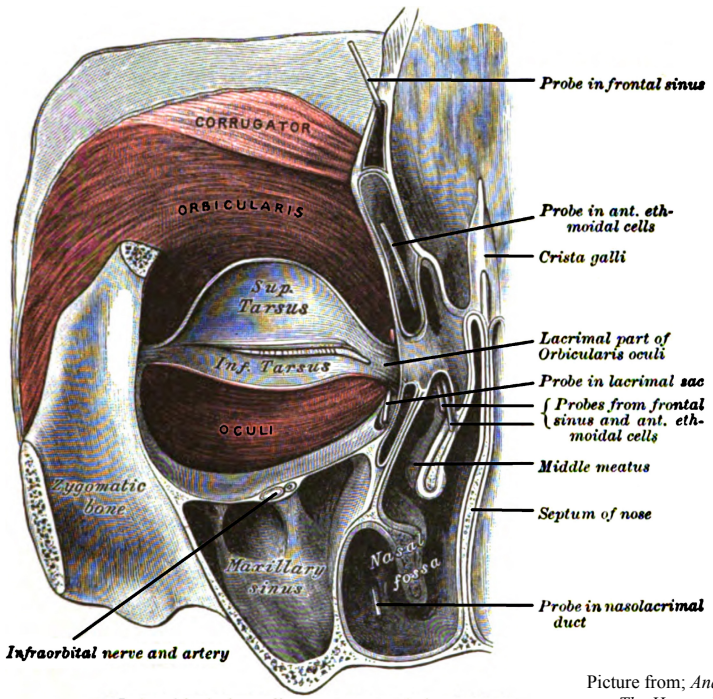
Q. (1) When I palm does it affect my eyes if I do mental work. I could palm more if it didn't matter what you were thinking about, because I could do part of my studying that way. In short, does mental work necessarily mean mental strain? (2) Isn't there any way to cure my eyes that doesn't take so much time as palming? M. W.

A. (1) Mental work does not necessarily mean mental strain. If you can see black with your eyes closed and covered while thinking of your lessons, you are perfectly safe in doing so. (2) The best thing for a busy person is to form a habit of constant shifting and to imagine that everything seen is moving. It is the habit of staring that spoils your sight. If you can correct this by constant shifting and the realization of the movement produced by the shift, you can get well without so much palming and you will also be able to do your school work better.

In many cases of glaucoma not only the pain, but the tension which is often associated with the pain, has been completely relieved by palming. In some cases permanent relief of the tension has followed one treatment. In others many treatments have been required.

Why the memory of black should have this effect cannot be fully explained, just as the action of many drugs cannot be explained; but it is evident that the body must be less susceptible to disturbances of all kinds when the mind is under control, and only when the mind is under control can black be remembered perfectly. That pain can be produced in any part of the body by the action of the mind is not a new observation; and if the mind can produce pain, it is not surprising that it should also be able to relieve pain and the conditions which produce it. This, doubtless, is the explanation of some of the remarkable cures reported by Faith Curists and Christian Scientists. Whatever the explanation, however, the facts have been attested by numerous proofs, and are of the greatest practical value.

With a little training, anyone with good sight can be taught to remember black perfectly with the eyes closed and covered, and with a little more training anyone can learn to do it with the eyes open. When one is suffering extreme pain, however, the control of the memory may be difficult, and the assistance of someone who understands the method may be necessary. With such assistance it is seldom or never impossible.



Left orbicularis oculi, seen from behind.

Picture from; *Anatomy Of The Human Body*

Congestion, infection... of the sinuses can affect the eyesight and function of the eyes, retina, lens, eye muscles, the ears, throat and lungs. Pressure on the eyes from sinus congestion can disrupt the eyes' movement, cause astigmatism, blurry vision. Chemicals, toxins in sinus sprays, eye drops enter the eyes, impair the vision and color perception.

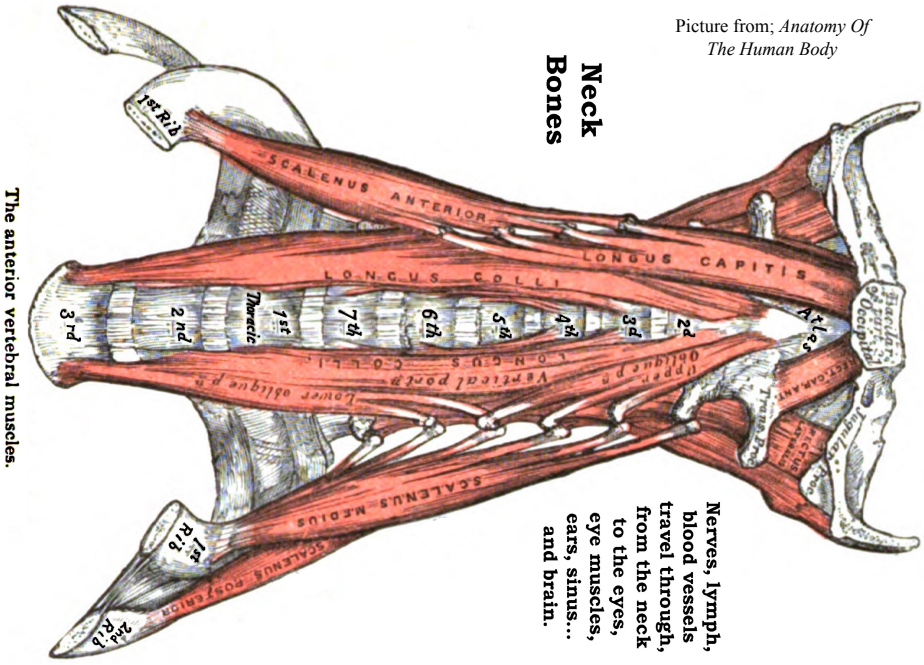
CHAPTER XX

PRESBYOPIA: ITS CAUSE AND CURE

AMONG people living under civilized conditions the accommodative power of the eye gradually declines, in most cases, until at the age of sixty or seventy it appears to have been entirely lost, the subject being absolutely dependent upon his glasses for vision at the near-point. As to whether the same thing happens among primitive people or people living under primitive conditions, very little information is available. Donders[1] says that the power of accommodation diminishes little, if at all, more rapidly among people who use their eyes much at the near-point than among agriculturists, sailors and others who use them mainly for distant vision; and Roosa and others[2] say the contrary. This is a fact however, that people who cannot read, no matter what their age, will manifest a failure of near vision if asked to look at printed characters, although their sight for familiar objects at the near-point may be perfect. The fact that such persons, at the age of forty-five or fifty, cannot differentiate between printed characters is no warrant, therefore, for the conclusion that their accommodative powers are declining. A young illiterate would do no better, and a young student who can read Roman characters at the near-point without difficulty always develops symptoms of imperfect sight when he attempts to read, for the first time, old English, Greek, or Chinese characters.

[1] On the Anomalies of Accommodation and Refraction of the Eye, p. 223.
[2] Roosa: A Clinical Manual of Diseases of the Eye, 1894, p. 537; Oliver: System of Diseases of the Eye, vol. iv, p. 431.

Picture from; *Anatomy Of The Human Body*



The anterior vertebral muscles.

Neck Bones

Nerves, lymph, blood vessels travel through, from the neck to the eyes, eye muscles, ears, sinus... and brain.

When the accommodative power has declined to the point at which reading and writing become difficult, the patient is said to have "presbyopia," or, more popularly, "old sight"; and the condition is generally accepted, both by the popular and the scientific mind, as one of the unavoidable inconveniences of old age. "Presbyopia," says Donders, "is the normal quality of the normal, emmetropic eye in advanced age,"[1] and similar statements might be multiplied endlessly. De Schweinitz calls the condition "a normal result of growing old";[2] according to Fuchs it is "a physiological process which every eye undergoes";[3] while Roosa speaks of the change as one which "ultimately affects every eye."[4]

The decline of accommodative power with advancing years is commonly attributed to the hardening of the lens, an influence which is believed to be augmented, in later years, by a flattening of this body and a lowering of its refractive index, together with weakness or atrophy of the ciliary muscle; and so regular is the decline, in most cases, that tables have been compiled showing the near-point to be expected at various ages. From these it is said one might almost fit glasses without testing the vision of the subject; or, conversely, one might, from a man's glasses, judge his age within a year or two. The following table is quoted from Jackson's chapter on "The Dioptrics of the Eye," in Norris and Oliver's "System of Diseases of the Eye,"[5] and does not differ materially from the tables given by Fuchs, Donders and Duane. The first

[1] On the Anomalies of Accommodation and Refraction of the Eye, p. 210.

[2] Diseases of the Eye, p. 148.

[3] Text-book of Ophthalmology, authorized translation from the twelfth German edition by Duane, 1919, p. 862. Ernst Fuchs (1851-). Professor of Ophthalmology at Vienna from 1885 to 1915. His Text-book of Ophthalmology has been translated into many languages.

[4] A Clinical Manual of Diseases of the Eye, p. 535.

[5] Vol. i, p. 504.

column indicates the age; the second, diopters of accommodative power; the third, the near-point for an emmetropic[1] eye, in inches.

Age	Diopters	Inches
10	14	2.81
15	12	3.28
20	10	3.94
25	8.5	4.63
30	7	5.63
35	5.5	7.16
40	4.5	8.75
45	3.5	11.25
50	2.5	15.75
55	1.5	26.25
60	.75	52.49
65	.25	157.48
70	0	0

According to these depressing figures, one must expect at thirty to have lost no less than half of one's original accommodative power, while at forty two-thirds of it would be gone, and at sixty it would be practically nonexistent.

There are many people, however, who do not fit this schedule. Many persons at forty can read fine print at fours inches, although they ought, according to the table, to have lost that power shortly after twenty. Worse still, there are people who refuse to become presbyopic at all. Oliver Wendell Holmes mentions one of these cases in "The Autocrat of the Breakfast Table."

[1] An eye which, when it is at rest, focusses parallel rays upon the retina, is said to be emmetropic or normal.

"There is now living in New York State," he says, "an old gentleman who, perceiving his sight to fail, immediately took to exercising it on the finest print, and in this way fairly bullied Nature out of her foolish habit of taking liberties at five-and-forty, or thereabout. And now this old gentleman performs the most extraordinary feats with his pen, showing that his eyes must be a pair of microscopes. I should be afraid to say how much he writes in the compass of a half-dime—whether the Psalms or the Gospels, or the Psalms and the Gospels, I won't be positive."[1]

There are also people who regain their near vision after having lost it for ten, fifteen, or more years; and there are people who, while presbyopic for some objects, have perfect sight for others. Many dressmakers, for instance, can thread a needle with the naked eye, and with the retinoscope it can be demonstrated that they accurately focus their eyes upon such objects; and yet they cannot read or write without glasses.

So far as I am aware no one but myself has ever observed the last mentioned class of cases, but the others are known to every opththalmologist of any experience. One hears of them at the meetings of ophthalmological societies; they are even reported in the medical journals; but such is the force of authority that when it comes to writing books they are either ignored or explained away, and every new treatise that comes from the press repeats the old superstition that presbyopia is "a normal result of growing old." We have beaten Germany; but the dead hand of German science still oppresses our intellects and prevents us from crediting the plainest evidence of our senses. Some of us are so filled with repugnance for

[1] Everyman's Library, 1908, pp. 166-167.

the Hun that we can no longer endure the music of Bach, or the language of Goethe and Schiller; but German ophthalmology is still sacred, and no facts are allowed to cast discredit upon it.

Fortunately for those who feel called upon to defend the old theories, myopia postpones the advent of presbyopia, and a decrease in the size of the pupil, which often takes place in old age, has some effects in facilitating vision at the near-point. Reported cases of persons reading without glasses when over fifty-or fifty-five years of age, therefore, can be easily disposed of by assuming that the subjects must be myopic, or that their pupils are unusually small. If the case comes under actual observation, the matter may not be so simple, because it may be found that the patient, so far from being myopic, is hypermetropic, or emmetropic, and that the pupil is of normal size. There is nothing to do with these cases but to ignore them. Abnormal changes in the form of the lens have also been held responsible for the retention of near vision beyond the prescribed age, or for its restoration after it has been lost, the swelling of the lens in incipient cataract affording a very convenient and plausible explanation for the latter class of cases. In cases of premature presbyopia "accelerated sclerosis"[1] of the lens and weakness of the ciliary muscle have been assumed; and if such cases as the dressmakers who can thread their needles when they can no longer read the newspapers had been observed, no doubt some explanation consistent with the German viewpoint would have been found for them.

The truth about presbyopia is that it is not "a normal result of growing old," being both preventable and cu-

[1] Fuchs: Text-book of Ophthalmology, p. 905.

rable. It is not caused by hardening of the lens, but by a strain to see at the near-point. It has no necessary connection with age, since it occurs, in some cases, as early as ten years, while in others it never occurs at all, although the subject may live far into the so-called presbyopic age. It is true that the lens does harden with advancing years, just as the bones harden and the structure of the skin changes; but since the lens is not a factor in accommodation, this fact is immaterial, and while in some cases the lens may become flatter, or lose some of its refractive power with advancing years, it has been observed to remain perfectly clear and unchanged in shape up to the age of ninety. Since the ciliary muscle is also not a factor in accommodation, its weakness or atrophy can contribute nothing to the decline of accommodative power. Presbyopia is, in fact, simply a form of hypermetropia in which the vision for the near-point is chiefly affected, although the vision for the distance, contrary to what is generally believed, is always lowered also. The difference between the two conditions is not always clear. A person with hypermetropia may or may not read fine print, and a person at the presbyopic age may read it without apparent inconvenience and yet have imperfect sight for the distance. In both conditions the sight at both points is lowered, although the patient may not be aware of it.

It has been shown that when the eyes strain to see at the near-point the focus is always pushed farther away than it was before, in one or all meridians; and by means of simultaneous retinoscopy it can always be demonstrated that when a person with presbyopia tries to read fine print and fails, the focus is always pushed farther away than it was before the attempt was made, indicat-

ing that the failure was caused by strain. Even the thought of making such an effort will produce strain, so that the refraction may be changed, and pain, discomfort and fatigue produced, before the fine print is regarded. Furthermore, when a person with presbyopia rests the eyes by closing them, or palming, he always becomes able, for a few moments at least, to read fine print at six inches, again indicating that his previous failure was due, not to any fault of the eyes, but to a strain to see. When the strain is permanently relieved, the presbyopia is permanently cured, and this has happened, not in a few cases, but in many, and at all ages, up to sixty, seventy and eighty.

The first patient that I cured of presbyopia was myself. Having demonstrated by means of experiments on the eyes of animals that the lens is not a factor in accommodation, I knew that presbyopia must be curable, and I realized that I could not look for any very general acceptance of the revolutionary conclusions I had reached so long as I wore glasses myself for a condition supposed to be due to the loss of the accommodative power of the lens. I was then suffering from the maximum degree of presbyopia. I had no accommodative power whatever, and had to have quite an outfit of glasses, because with a glass, for instance, which enabled me to read fine print at thirteen inches, I could not read it either at twelve inches or at fourteen. The retinoscope showed that when I tried to see anything at the near-point without glasses, my eyes were focussed for the distance, and when I tried to see anything at the distance they were focussed for the near-point. My problem, then, was to find some way of reversing this condition and inducing my eyes to focus for the point I wished to see at the moment that I wished

to see it. I consulted various eye specialists but my language was to them like that of St. Paul to the Greeks, namely, foolishness. "Your lens is as hard as a stone," they said. "No one can do anything for you." Then I went to a nerve specialist. He used the retinoscope on me, and confirmed my own observations as to the peculiar contrariness of my accommodation; but he had no idea what I could do about it. He would consult some of his colleagues, he said, and asked me to come back in a month, which I did. Then he told me he had come to the conclusion that there was only one man who could cure me, and that was Dr. William H. Bates of New York.

"Why do you say that?" I asked.

"Because you are the only man who seems to know anything about it," he answered.

Thus thrown upon my own resources, I was fortunate enough to find a non-medical gentleman who was willing to do what he could to assist me, the Rev. R. B. B. Foote, of Brooklyn. He kindly used the retinoscope through many long and tedious hours while I studied my own case, and tried to find some way of accommodating when I wanted to read, instead of when I wanted to see something at the distance. One day, while looking at a picture of the Rock of Gibralter which hung on the wall, I noted some black spots on its face. I imagined that these spots were the openings of caves, and that there were people in these caves moving about. When I did this my eyes were focussed for the reading distance. Then I looked at the same picture at the reading distance, still imagining that the spots were caves with people in them. The retinoscope showed that I had accommodated, and I was able to read the lettering beside the picture. I had,

in fact, been temporarily cured by the use of my imagination. Later I found that when I imagined the letters black I was able to see them black, and when I saw them black I was able to distinguish their form. My progress after this was not what could be called rapid. It was six months before I could read the newspapers with any kind of comfort, and a year before I obtained my present accommodative range of fourteen inches, from four inches to eighteen; but the experience was extremely valuable, for I had in pronounced form every symptom subsequently observed in other presbyopic patients.

Fortunately for the patients, it has seldom taken me as long to cure other people as it did to cure myself. In some cases a complete and permanent cure was effected in a few minutes. Why, I do not know. I will never be satisfied till I find out. A patient who had worn glasses for presbyopia for about twenty years was cured in less than fifteen minutes by the use of his imagination.

When asked to read diamond type, he said he could not do so, because the letters were grey and looked all alike. I reminded him that the type was printer's ink and that there was nothing blacker than printer's ink. I asked him if he had ever seen printer's ink. He replied that he had. Did he remember how black it was? Yes. Did he believe that these letters were as black as the ink he remembered? He did, and then he read the letters; and because the improvement in his vision was permanent, he said that I had hypnotized him.

In another case a presbyope of ten years' standing was cured just as quickly by the same method. When reminded that the letters which he could not read were black, he replied that he knew they were black, but that they looked grey.

"If you know they are black, and yet see them grey," I said, "you must imagine them grey. Suppose you imagine that they are black. Can you do that?"

"Yes," he said, "I can imagine that they are black"; and then he proceeded to read them.

These extremely quick cures are rare. In nine cases out of ten progress has been much slower, and it has been necessary to resort to all the methods of obtaining relaxation found useful in the treatment of other errors of refraction. In the more difficult cases of presbyopia the patients often suffer from the same illusions of color, size, form and number, when they try to read fine print, as do patients with hypermetropia, astigmatism, and myopia when they try to read the letters on the Snellen test card at the distance. They are unable to remember or imagine, when trying to see at the near-point, even such a simple thing as a small black spot, but can remember it perfectly when they do not try to see. Their sight for the distance is often very imperfect and always below normal, although they may have thought it perfect; and just as in the case of other errors of refraction, improvement of the distant vision improves the vision at the near-point. Regardless, however, of the difficulty of the case and the age of the patient, some improvement has always been obtained, and if the treatment was continued long enough, the patient has been cured.

The idea that presbyopia is "a normal result of grow-old" is responsible for much defective eyesight. When people who have reached the presbyopic age experience difficulty in reading, they are very likely to resort at once to glasses, either with or without professional advice. In some cases such persons may be actually presbyopic; in others the difficulty may be something tempo-

rary, which they would have thought little about if they had been younger, and which would have passed away if Nature had been left to herself. But once the glasses are adopted, in the great majority of cases, they produce the condition they were designed to relieve, or, if it already existed, they make it worse, sometimes very rapidly, as every ophthalmologist knows. In a couple of weeks, sometimes, the patient finds, as noted in the chapter on "What Glasses Do to Us," that the large print which he could read without difficulty before he got his glasses, can no longer be read without their aid. In from five to ten years the accommodative power of the eye is usually gone; and if from this point the patient does not go on to cataract, glaucoma, or inflammation of the retina, he may consider himself fortunate. Only occasionally do the eyes refuse to submit to the artificial conditions imposed upon them; but in such cases they may keep up an astonishing struggle against them for long periods. A woman of seventy, who had worn glasses for twenty years, was still able to read diamond type and had good vision for the distance without them. She said the glasses tired her eyes and blurred her vision, but that she had persisted in wearing them, in spite of a continual temptation to throw them off, because she had been told that it was necessary for her to do so.

If persons who find themselves getting presbyopic, or who have arrived at the presbyopic age, would, instead of resorting to glasses, follow the example of the gentleman mentioned by Dr. Holmes, and make a practice of reading the finest print they can find, the idea that the decline of accommodative power is "a normal result of growing old" would soon die a natural death.

The small print on the bottom of page 220 to 225 are additional Strabismus Cures from Dr. Bates Magazine;

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1920, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. III NOVEMBER, 1920 No. 5

SQUINT AND AMBLYOPIA: THEIR CURE

By W. H. Bates, M. D.

Squint, or strabismus, is that condition of the eyes in which both are not directed to the same point at the same time. One eye may turn out more or less persistently while the other is normal (divergent squint), or it may turn in (convergent squint), or it may look too high or too low while deviating at the same time in an outward or inward direction (vertical squint). Sometimes these conditions change from one eye to another (alternating squint), and sometimes the character of the squint changes in the same eye, divergent squint becoming convergent and vice versa. Sometimes the patient is conscious of seeing two images of the object regarded, and sometimes he is not. Usually there is a lowering of vision in the deviating eye which cannot be improved by glasses, and for which no apparent or sufficient cause can be found. This condition is known as *amblyopia*, literally *dim-sightedness*, and is supposed to be incurable after a very early age, even though the squint may be corrected.

Operations, which are now seldom advised, are admitted to be a gamble. According to Fuchs, [1] "their results are as a rule simply cosmetic. The sight of the squinting eye is not influenced by the operation, and only in a few instances is even binocular vision restored." This is an understatement rather than the reverse, for a desirable cosmetic effect cannot be counted upon, and in not a few cases the condition is made worse. Sometimes the affected eye becomes straight and remains straight permanently, but often, after it has remained straight for a shorter or a longer time, it suddenly turns, in the opposite direction.

I myself have had both failures and successes from operations. In one case the eyes not only became straight, but binocular single vision—that is, the power of fusing the two visual images into one—was restored, and when I last saw the patient, thirty years after the operation, there had been no change in these conditions. Yet when I reported to the ophthalmological section of the New York Academy of Medicine that I had cut away a quarter of an inch from the tendon of the internal rectus of each eye, the members were unanimous in their opinion that the eyes would certainly turn in the opposite direction in a very short time. In other cases the eyes, after remaining straight for a time, have reverted to their old condition, or turned in the opposite direction. The latter happened once after an apparently perfect result, including the restoration of binocular single vision, which had been permanent for five years. The consequent deformity was terrible. Sometimes I tried to undo the harm resulting from operations, my own and those of others, but invariably I failed.

Glasses, prescribed on the theory that the existence of errors of refraction is responsible for the failure of the two eyes to act together, sometimes appear to do good; but exceptions are numerous, and in many cases they fail even to prevent the condition from becoming steadily worse.

The fusion training of Worth is not believed to be of much use after the age of five or six, and often fails even then, in which case Worth recommends operations.

Fortunately for the victims of this distressing condition, their eyes often become straight spontaneously, regardless of what is or is not done to them. More rarely the vision of the squinting eye is restored. If the sight of the good eye is destroyed, the amblyopic eye is very likely to recover normal vision, often in an incredibly short space of time. In spite of the fact that the text-books agree in assuring us that amblyopia is incurable, many cases of the latter class are on record.

The fact is that both squint and amblyopia, like errors of refraction, are functional troubles, originating entirely in the mind. Both can be produced in normal eyes by a strain to see, and both are immediately relieved when the patient looks at a blank surface and remembers something perfectly. A permanent cure is a mere matter of making this temporary relaxation permanent.

Permanent relaxation can be obtained by any of the methods used in the cure of errors of refraction, but in the case of young children who do not know their letters these methods have to be modified. Such children can be cured by encouraging them to use their eyes on any small objects that interest them. There are many ways in which this can be done, and it is important to devise a variety of exercises so that the child will not weary of them. For the same reason the presence of other children is at times desirable. There must be no compulsion and no harshness, for as soon as any exercise ceases to be pleasant it ceases to be beneficial.

[1] Text-Book of Ophthalmology, authorized translation from the twelfth German edition by Duane, p. 795.

CHAPTER XXI

SQUINT AND AMBLYOPIA: THEIR CAUSE

SINCE we have two eyes, it is obvious that in the act of sight two pictures must be formed; and in order that these two pictures shall be fused into one by the mind, it is necessary that there shall be perfect harmony of action between the two organs of vision. In looking at a distant object the two visual axes must be parallel, and in looking at an object at a less distance than infinity, which for practical purposes is less than twenty feet, they must converge to exactly the same degree. The absence of this harmony of action is known as "squint," or "strabismus," and is one of the most distressing of eye defects, not only because of the lowering of vision involved, but because the want of symmetry in the most expressive feature of the face which results from it has a most unpleasant effect upon the personal appearance. The condition is one which has long baffled ophthalmological science. While the theories as to its cause advanced in the text-books seem to fit some cases, they leave others unexplained, and all methods of treatment are admitted to be very uncertain in their results.

The idea that a lack of harmony in the movements of the eye is due to a corresponding lack of harmony in the strength of the muscles that turn them in their sockets seem such a natural one that this theory was almost universally accepted at one time. Operations based upon it once had a great vogue; but to-day they are advised, by most authorities, only as a last resort. It is true that many persons have been benefited by them; but, at best,

Squint, Strabismus = Crossed and Wandering Eyes.

The needle, the brush, the pencil, kindergarten and Montessori material, picture books, playing cards, etc., may all be utilized for purposes of eye training. At first it will be necessary to use rather large objects and forms, but as the sight improves the size must be reduced. A child may begin to sew, for instance, with a coarse needle and thread, and will naturally take large stitches. As its sight improves a finer needle should be provided, and the stitches will naturally be smaller. Painting the openings of letters in different colors is an excellent practice, and as the sight improves the size of the letters can be reduced. Map drawing and the study of maps is a good thing, and can be easily adapted to the state of the vision. With a map of the United States a child can begin by picking out all the states of a particular color, and as its sight improves it can pick out the rivers and cities. In drawing maps it can proceed in the same way, beginning with the outlines of countries or states, and with improved vision putting in the details. A paper covered with spots in various colors is another useful thing, as the child gets much amusement and benefit from picking out all the spots of the same color. With improved vision the size of the spots can be reduced and their number increased.

Many interesting games can be devised with playing cards. "Slap Jack" is a good one, as it awakens intense interest and great quickness of vision is required to slap the Jack with the hand the moment its face appears on the table.

These ideas are only suggestions, and any intelligent parent will be able to add to them.

Both children and adults are greatly benefited by making their squint worse or producing new kinds of squint (see page 2). The voluntary production of squint is a favorite amusement with children, and if they show an inclination to indulge in it, they should be encouraged. Most parents fear that the temporary squint will become permanent, but the fact is just the contrary. Anyone who can squint voluntarily will never squint involuntarily.

HOW I CURED MY CHILD OF SQUINT

By Mrs. B. F. Glienke

The following remarkable story is published in the hope that it may help other parents in the treatment of squinting children. The patient was first seen on April 24, 1920, her age being four years. When her sight was tested with pothooks her eyes were straight and her vision normal. When tested with the letters of the Snellen test card, which she could not read, or with figures, which she did not know, her eyes turned, and the retinoscope showed that she had compound myopic astigmatism. When she looked at a blank wall without trying to see, her eyes were again straight and her vision normal.

When my little daughter was quite young I noticed that her eyes were crossed at times, while at others they were perfectly straight. Later the squint became more continuous, and when she was four years old she was taken to Dr. Bates. He said the trouble was entirely a nervous one, and called my attention to the fact that when the child was comfortable and happy her eyes were straight, and when she was nervous they turned. He said that she should be encouraged to use her eyes as much as possible on objects that interested her, and that she must never be scolded or punished. He also recommended a cold sponge bath and massage first thing in the morning, for the purpose of quieting and

the correction of the squint is only approximate, and in many cases the condition has been made worse, while a restoration of binocular vision—the power of fusing the two visual images into one—is scarcely even hoped for.[1]

The muscle theory fitted the facts so badly that when Donders advanced the idea that squint was a condition growing out of refractive errors—hypermetropia being held responsible for the production of convergent and myopia for divergent squint—it was universally accepted. This theory, too, proved unsatisfactory, and now medical opinion is divided between various theories. Hansen-Grut attributed the condition, in the great majority of cases, to a defect, not of the muscles, but of the nerve supply; and this idea has had many supporters. Worth and his disciples lay stress on the lack of a so-called fusion faculty, and have recommended the use of prisms, or other measures, to develop it. Stevens believes that the anomaly results from a wrong shape of the orbit, and as it is impossible to alter this condition, advocates operations for the purpose of neutralizing its influence.

In order to make any of these theories appear consistent it is necessary to explain away a great many troublesome facts. The uncertain result of operations upon the eye muscles is sufficient to cast suspicion on the theory that the condition is due to any abnormality of the muscles, and many cases of marked paralysis of one or more muscles have been observed in which there was no squint. Relief of paralysis, moreover, may not relieve the squint, nor the relief of the squint the paralysis. Worth found

[1] The result obtained by the operation is, as a rule, simply cosmetic. The sight of the squinting eye is not influenced by the operation, and in only a few instances is even binocular vision restored.—Fuchs: Text-book of Ophthalmology, p. 795.

The result of even the most successful squint operation, in long-standing strabismus, is merely cosmetic in the vast majority of cases.—Eversbusch: The Diseases of Children, edited by Pfaunder and Schlossman. English translation by Shaw and La Fetra, second edition, 1912-1914, vol. vii. p. 316.

strengthening her nerves and improving her general health.

As I had been a teacher of drawing before my marriage and understood something of kindergarten methods, I did not find it difficult to follow his instructions. I drew pictures of animals, and asked Marie to tell me if they were running, walking, or standing still, whether they were looking at her, or facing in some other direction, whether they had four legs or two. I showed her a picture of the moon, and asked her to tell me whether the horns were pointing upward, downward, or sideways. We played that the moon was full of water and had to be held right side up so that the water would not run out. She became very much interested in these pictures, and as long as the interest lasted her eyes were straight. When they ceased to interest her the squint returned.

Sometimes I would ask her to look at the windows and tell me whether they were open at the top or bottom, whether the shades were partly down, or all the way down. Then we would look at the windows across the street and do the same thing. We also watched the passing motors, and I asked her to tell me how many people there were in them and whether these people were men, women or children. We studied the patterns of the wall paper, and when visitors came I asked her after they had gone to tell me what kind of clothes they had on. I taught her to sew and paint, to match colors, and braid mats, to thread beads, and do things with building blocks. Her father, who is a printer, showed her specimens of diamond type, and of minion which is even smaller than diamond. She enjoyed picking out the smallest letters, and when she did so her eyes were straight.

Threading beads was the most beneficial work undertaken, its tediousness being overcome by the fact that the child's doll and all her stuffed animals, Teddy bear, bunny, dog, etc., each received its own particular necklace of beads. The cold baths and massage were also a great help.

The combined results of the treatment were wonderful. Her eyes began to be straight all the time. Her nervous condition and her appetite improved, and she slept better. Then we had some set-backs. First she had an attack of grippe with cough, headaches and fever. The squint came back and stayed with her for several weeks, until she was well. Then her eyes became straight again.

Later on when she was playing with her little brother they disagreed about something, and Marie got so nervous that her eyes became worse than on any previous occasion since she had been under treatment. The squint alternated from one eye to the other, the left eye being the worse, and next day we were very much worried when we found that the left eye was practically blind. But we went on encouraging her to use her eyes, and in ten days she was as well as ever.

STORIES FROM THE CLINIC

9: Three Cases of Squint

By Emily C. Lierman

One day as I entered the clinic I saw two mothers standing side by side, each holding a little boy by the hand. The children were both about the same age, five years, and both were cross-eyed; but there the resemblance ceased. One seemed happy and contented, and it was quite evident that he was much loved and well cared for. Although cheap and plain, the clothes of both mother and child were clean and neat, and often the boy would look at the mother for a smile,

so many cases which were not benefited by training designed to improve the fusion faculty that he recommended operations on the muscles in such cases; while Donders, noting that the majority of hypermetropes did not squint, was obliged to assume that hypermetropia

Fig. 53

No. 1—Reading the Snellen test card with normal vision; visual axes parallel.

No. 2—The same patient making an effort to see the test card; myopia and convergent squint of the left eye have been produced.

did not cause this condition without the aid of co-operating circumstances.

That the state of the vision is not an important factor in the production of squint is attested by a multitude of facts. It is true, as Donders observed, that squint is usually associated with errors of refraction; but some people squint with a very slight error of refraction. It is also true that many persons with convergent squint

Method of Testing for Diplopia. The patient is seated in a chair, and in front of one eye is placed a piece of red glass to enable him to differentiate between the two images. He is directed to look at a flame of light from a candle or gas-jet a few metres' distant, and asked whether one or two images of the flame are seen, and their relative positions.

Paralysis of left external rectus. (Dercum.)

Most eye doctors consider this crossed left eye to have a paralyzed or lazy external rectus muscle. It could be paralyzed by nerve injury, other injury or it is not working correct with the brain. Doctor Bates states that; most all of the time, the left external rectus eye muscle is not paralyzed, is not weak, not lazy. He states that; the opposite muscle, the *internal rectus* on the nasal (*near top of the nose*) side of the eyeball is tense and pulling the eye inward.

Paralysis of right internal rectus and dilated pupil. (Dercum.)

Doctor Bates states that; the right internal rectus eye muscle is not paralyzed, not weak. The opposite muscle, the *external rectus* is tense, pulling the eye outward.

These strabismus conditions can be corrected without surgery, without prisms by applying relaxation of the eye muscles, the mind, central-fixation, shifting, improving vision in the strabismus eye, correcting brain function and using other natural methods. The Bates Method also improves function of the iris-pupil muscle.

which was always there. The other boy was plainly unhappy and neglected. I could read the mind of the mother, who was anything but clean, as she stood there grasping his hand a little too tightly, and even without her frequent whispered threats of dire things to happen if the child did not keep still, I would have known that she considered him a nuisance, and not a precious possession as boy No. 1 plainly was to his mother.

I was at a loss to know which child to treat first, but decided upon Nathan, the clean one, and tried to keep the other interested while he waited. Nathan had beautiful black curls, and should have been pretty, but for the convergent squint of his right eye, which gave him a very peculiar appearance. His vision was very poor. With both eyes together he could read at ten feet only the fifty line of the test card, and with the squinting eye he read only the seventy line. I showed him how to palm, and while he was doing so I had time to talk to his mother. She said that his right eye had turned in since he was two years old and that all the doctors she had taken him to had prescribed glasses. These, however, had not helped him. I now asked Nathan to read the card again, and was delighted to find that the vision of the bad eye had become equal to that of the good one, namely 10/50. I had difficulty in keeping his head straight while I was testing him, for like most children with squint, he tried to improve his sight by looking at the object of vision from all sorts of angles. After he had palmed for a sufficient length of time, however, he became able to correct this habit. The extraordinary sympathy which existed between mother and child came out again during the treatment, for no matter what I said or did, the child would not smile until the mother did.

Nathan came to the clinic very regularly for a year, and for the first six months he always wore a black patch over his better eye, the left, while atropine was also used in this eye to prevent its use in case the patch was not worn constantly. Nathan did not like the patch, and his mother had to promise all sorts of things to keep it on. After it was removed the atropine was continued. Dr. Bates had told me what to expect when the patch was removed, and so I was not shocked to see the eye turn in. I knew the condition would be temporary, and that in time both eyes would be straight. Treatment was continued for six months, and now the boy reads at times 10/15 with both eyes, and always with a smile.

The dirty little boy, to whom we must now go back, was called George, and his condition was worse than that of Nathan, for he had squint in both eyes. At ten feet he read the fifty line, but complained that he saw double. I showed him how to palm, and while he was doing so his mother told me how very bad he was, adding that I must spank him if he did not mind me.

"I think he gets enough of that already," I said, but I was careful to say it with a smile, fearing that she might lose her temper and say more than I would like.

George had now been palming five minutes, and I asked him to uncover his eyes and look at the card. He was much surprised to find that he could read the forty line without seeing the letters double. I asked his mother very quietly to be a little patient with him and help him at home, and I gave her a test card for him to practice with.

"Madam," she replied, "I am the mother of six, and I haven't time to fuss with him."

have hypermetropia; but many others have not. Some persons with convergent squint have myopia. A person may also have convergent squint with one eye normal and one hypermetropic or myopic, or with one eye blind. Usually the vision of the eye that turns in is less than that of the eye which is straight; yet there are cases in which the eye with the poorer vision is straight and the eye with the better vision turned in. With two blind eyes, both eyes may be straight, or one may turn in. With one good eye and one blind eye, both eyes may be straight. The blinder the eye, as a rule, the more marked the squint; but exceptions are frequent, and in rare cases an eye with nearly normal vision may turn in persistently. A squint may disappear and return again, while convergent squint will change into divergent squint and back again. With the same error of refraction, one person will have squint and the other not. A third will squint with a different eye. A fourth will squint first with one eye and then with the other. In a fifth the amount of the squint will vary. One will get well without glasses, or other treatment, and another with these things. These cures may be temporary, or permanent, and the relapses may occur either with or without glasses.

However slight the error of refraction, the vision of many squinting eyes is inferior to that of the straight eye, and for this condition, usually, no apparent or sufficient cause can be found in the constitution of the eye. There is a difference of opinion as to whether this curious defect of vision is the result of the squint, or the squint the result of the defect of vision; but the predominating opinion that it is, at least, aggravated by the squint has been crystallized in the name given to the condition, namely, "amblyopia ex anopsia," literally "dim-sighted-

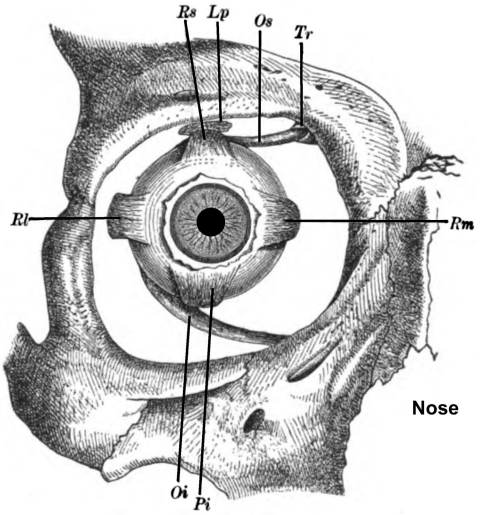
Picture is From the Book;

A Treatise on Diseases Of The Eye, Nose, Throat And Ear

***For Students And Practitioners* - 1902**

Illustrated With 650 Engravings And 35 Plates

By Various Authors, Ophthalmologists, Artists



Showing attachment of the orbital muscles.
***Rl.* External rectus. *Rs.* Superior rectus. *Lp.* Levator palpebræ. *Os. Tr.* Superior oblique with its pulley. *Pi.* Inferior rectus. *Rm.* Internal rectus. *Oi.* Inferior oblique.

"No wonder the kiddy is cross-eyed," I thought, and seeing I could get no help in that quarter, I appealed to George.

When I revealed to him the possibility of a Christmas present if he came to the clinic regularly and did what I told him he became interested. I did not know how much could be done for his eyes in the eight weeks that remained before the holidays, but I felt sure that with his co-operation we could at least make a good start. This he gave me in full measure. Never did I have a more enthusiastic patient. He came to the clinic regularly three days a week, and often when I came late I would find him waiting for me on the hospital steps and yelling:

"Here she is. I saw her first."

After he had been practicing faithfully for two weeks—palming six times a day, and perhaps more, according to his own report—he was able to keep his eyes straight while he read the test card at twelve feet.

After he had done this I asked him to spell a word with four letters, and instantly his eyes turned. I had him palm again, and then I asked him to count up to twenty. His eyes remained straight, because he could do this without strain.

Two days before Christmas I brought my bundle of presents for the children. George was there bright and early, and with him had come three of his brothers, to get their share too, "if there was any," as George explained. Fortunately a little fairy had prepared me for this, and I had gifts for everyone. That day George was able to keep his eyes straight both before and after his treatment, and to read 15/10 with each eye separately. I have never seen him since, and can only hope that he kept up the treatment until permanently cured.

When little Ruth, aged three, first came to us Dr. Bates suggested to her mother, who was nearsighted, that she should have her own eyes cured, because her condition had a bad effect on the child. She consented, and now has nearly normal vision. Ruth had squint and was so tiny that I had to put her on a table to treat her. As she could not, of course, read the letters on the test card, I held before her a card covered with E's of various sizes turned in different directions. Her mother was quite positive that she couldn't understand what I wanted her to do, but Ruth, as often happens in such cases, had more intelligence than her mother gave her credit for. I asked her to tell me whether a certain E pointed upward, or to the right or left, by merely indicating the direction with her finger, and it did not take an instant for her to show Mother how bright she was. I showed her how to palm, and in a little while she indicated correctly the direction of the letters on several lines. When the letters became indistinct, as I moved the card further away, she became excited and wanted to cry, and her left eye turned in markedly. She palmed again and while she was doing so, I asked her all about her dolly, whether her eyes were blue, or some other color, what kind of clothes she wore, and so on. When she removed her hands from her eyes both were straight. Her mother was instructed to practice with her many times a day at short intervals, so that she would not tire of it, and in three months her eyes were straight every time I tested her sight. I was much interested to learn from her mother that if Ruth's daddy raised his voice in the slightest degree when he spoke to her, her eyes were sure to turn in. This merely confirmed my own experience that it is necessary to treat children who have defects of vision with the utmost gentleness if one

ness from non-use"—for in order to avoid the annoyance of double vision the mind is believed to suppress the image of the deviating eye. There are, however, many squinting eyes without amblyopia, while such a condition has been found in eyes that have never squinted.

The literature of the subject is full of the impossibility of curing amblyopia, and in popular writings persons having the care of children are urged to have cases of squint treated early, so that the vision of the squinting eye may not be lost. According to Worth, not much improvement can ordinarily be obtained in amblyopic eyes after the age of six, while Fuchs says,[1] "The function of the retina never again becomes perfectly normal, even if the cause of the visual disturbance is done away with." Yet it is well known, as the translator of Fuchs points out in an editorial comment upon the above statement,[2] that if the sight of the good eye is lost at any period of life, the vision of the amblyopic eye will often become normal. Furthermore, an eye may be amblyopic at one time and not at another. When the good eye is covered, a squinting eye may be so amblyopic that it can scarcely distinguish daylight from darkness; but when both eyes are open, the vision of the squinting eye may be found to be as good as that of the straight eye, if not better. In many cases, too, the amblyopia will change from one eye to the other.

Double vision occurs very seldom in squint, and when it does, it often assumes very curious forms. When the eyes turn in the image seen by the right eye should, according to all the laws of optics, be to the right, and the image seen by the left eye to the left. When the

[1] Text-book of Ophthalmology, p. 633.

[2] Cases have been reported, some surely authentic, in which an amblyopic squinting eye has acquired good vision, either through correction of the refraction, or because loss of sight in the good eye has compelled the use of the amblyopic eye.—Ibid.

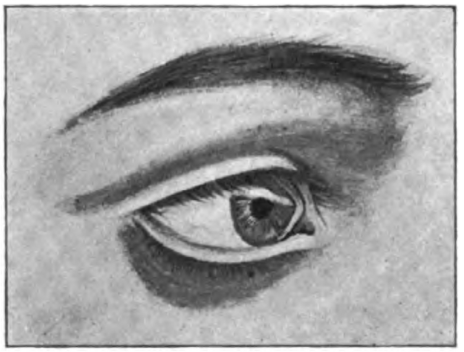
Keratoconus - Conical Cornea

With the bulging of the cornea myopia and astigmatism are produced. (Close and reading vision can also be impaired by this condition.) Advanced astigmatism can cause conical cornea. Eyeglasses cause and increase astigmatism and conical cornea. If glasses are prescribed, the glasses soon require an increase in strength. With advance in the condition;

Vision becomes much impaired, and because of the conical shape of the cornea relief cannot be obtained by glasses, as suitable glasses cannot be made to correct the peculiar curvatures produced. The change in the shape advances in many cases until the conical condition is very marked. The apex of the cone becomes opaque.

(Stronger and stronger eyeglasses, astigmatism prescriptions, bifocal... are a main cause of unclear vision, astigmatism and conical cornea.

Diagnosis. In the very early stage of keratoconus diagnosis is not easy, but careful examination by means of the ophthalmometer and by Placido's keratoscope makes the diagnosis possible.



Conical cornea. (DALRYMPLE.)

Ophthalmologist William H. Bates cures *Keratoconus, (conical cornea) and astigmatism* without the use of eyeglasses, eye/cornea surgery. Dr. Bates relaxes the outer and inner eye muscles. When the eye muscles relax; they stop causing pressure, pulling, tension on and inside the eye, lens and cornea. The eye, lens, cornea return to normal healthy shape and function. The eye produces normal, relaxed shifting movement with central fixation. The mind is relaxed. The eye's circulation is normal. All of this is accomplished with natural, safe methods.

Eyeglasses cause and increase; eye muscle tension, pressure, pulling, tension on and inside the eye, lens, cornea and abnormal eye, lens, cornea shape. Avoiding eyeglasses allows the eye muscles and mind to relax.

wants to cure them. Ruth is not cured yet, but she hopes to be before Christmas, because Santa Claus is sure to visit Room 6, Harlem Hospital Clinic, and he does not like to see children squinting.

QUESTIONS AND ANSWERS

All readers of this magazine are invited to send questions to the editor regarding any difficulties they may experience in using the various methods of treatment which it recommends. These will be answered as promptly as possible. Kindly enclose a stamped addressed envelope.

Q. Can opacity of the cornea be cured?—E. B.

A. Yes. A patient with opacity of the cornea came to the eye clinic of the Harlem Hospital with a vision of 20/70, and in half an hour became able to read 20/40. Later his vision became normal, much to my surprise. Other cases have also been cured.

Q. Is retinitis pigmentosa curable?—R. V.

A. Yes. See *Better Eyesight*, for April, 1920.

Q. My eyes are weak, and cannot stand the light. Can anything be done for them?—Mrs. W. T.

Q. Is it possible to regain the ability to read without glasses when it fails after the age of forty, the sight at the distance being perfect? If so how can this be done?—H. C.

A. The failure of the sight at the near-point after forty is due to the same cause as its failure at any other point and at any other age, namely strain. The sight can be restored by practicing at the near-point the same methods used to improve the vision at the distance—palming, shifting, swinging, etc. The sight is never perfect at the distance when imperfect at the near-point, but will become so when the sight at the near point has become normal.

A. Yes. Stop wearing dark glasses, and go out into the bright sunshine. As they get stronger accustom them to the direct light of the sun. Let the sun shine on the closed eyelids. Then gradually open them until able to keep them wide open while the sun shines directly into them. Be careful not to overdo this, as much discomfort and lowered vision might result temporarily from a premature exposure of the eyes to strong light. See *Better Eyesight* for November, 1919.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

For Sale By

THE CENTRAL FIXATION PUBLISHING COMPANY

Paper ....50 Cents

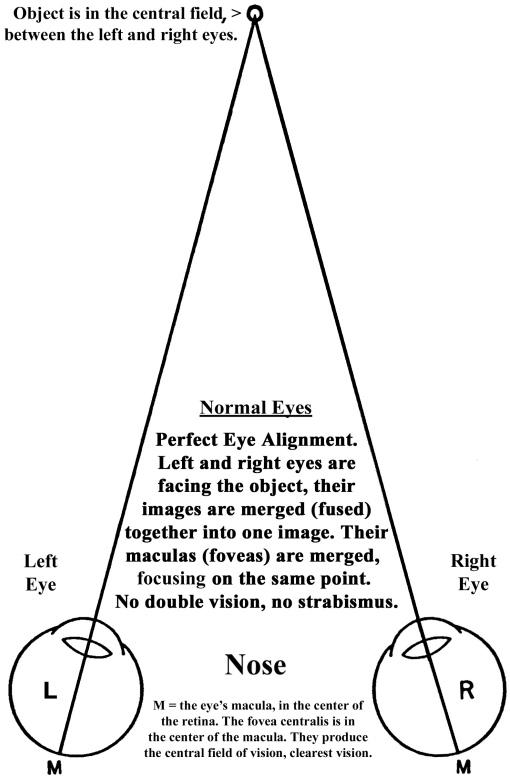
Cardboard (folding) .....75 Cents

DELIVERED

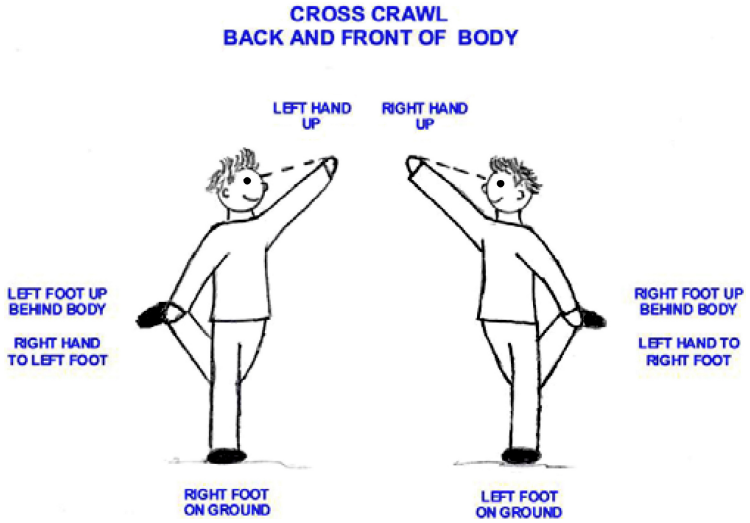
A limited number of reprints of articles by Dr. Bates published in other medical journals also for sale. Send for list. Also back numbers of BETTER EYESIGHT. First twelve numbers, $3.00; bound in cloth, $1.25 extra; single copies, 30 cents.

eyes turn out, the opposite should be the case. But often the position of the images is reversed, the image of the right eye in convergent squint being seen to the left and that of the left eye to the right, while in divergent squint the opposite is the case. This condition is known as "paradoxical diplopia." Furthermore, persons with almost normal vision and both eyes perfectly straight may have both kinds of double vision.

All the theories heretofore suggested fail to explain the foregoing facts; but it is a fact that in all cases of squint a strain can be demonstrated, and that the relief of the strain is in all cases followed by the cure of the squint, as well as of the amblyopia and the error of refraction. It is also a fact that all persons with normal eyes can produce squint by a strain to see. It is not a difficult thing to do, and many children derive much amusement from the practice, while it gives their elders unnecessary concern, for fear the temporary squint may become permanent. To produce convergent squint is comparatively easy. Children usually do it by straining to see the end of the nose. The production of divergent squint is more difficult, but with practice persons with normal eyes become able to turn out either eye, or both, at will. They also become able to turn either eye upward and inward, or upward and outward, at any desired angle. Any kind of squint can, in fact, be produced at will by the appropriate kind of strain. Some persons retain the power to produce voluntary squint more or less permanently. Others quickly lose it if they do not keep in practice. There is usually a lowering of the vision when voluntary squint is produced, and accepted methods of measuring the strength of the muscles seem to show deficiencies corresponding to the nature of the squint.



Picture on the right >
A variation of the Cross Crawl on page 229.
A movement, coordination exercise.
It activates and integrates the left and right brain hemispheres, improves brain function, relaxes and coordinates the outer and inner eye muscles, coordinates the left and right eyes' movement. Corrects crossed, wandering eyes and improves, balances the vision in the left and right eyes and vision at all distances; close, middle and far.



CHAPTER XXII

SQUINT AND AMBLYOPIA: THEIR CURE

THE evidence is conclusive that squint and amblyopia, like errors of refraction, are purely functional troubles; and since they are always relieved by the relief of the strain with which they are associated, it follows that any of the methods which promote relaxation and central fixation may be employed for their cure. As in the case of errors of refraction, the squint disappears and the amblyopia is corrected just as soon as the patient gains sufficient mental control to remember a perfectly black period. In this way both conditions can be temporarily relieved in a few seconds, their permanent cure being a mere matter of making this temporary state permanent.

One of the best ways of gaining mental control in cases of squint is to learn how to increase the squint, or produce other kinds of squint, voluntarily. In the case illustrated, the patient had divergent vertical squint in both eyes. When the left eye was straight the right eye turned out and up, and when the right eye was straight the left eye turned down and out. Both eyes were amblyopic and there was double vision, with the images sometimes on the same side and sometimes on opposite sides. The patient suffered from headaches, and having obtained no relief from glasses, or other methods of treatment, she made up her mind to an operation and consulted Dr. Gudmund J. Gislason, of Grand Forks, N. D., with a view to having one performed. Dr. Gislason, puzzled to find so many muscles apparently

Homonymous Diplopia (Fig. 88).—This is a condition in which the false object is seen on the side corresponding to the deviating eye. In Fig. 88 the left eye (O. S.) is fixing the object O, but the right eye (O. D.) is convergent, and the image of O falls to the nasal side of the fovea, which, in consequence, is projected to the temporal side at F. Homonymous diplopia is produced in esophoria and in convergent strabismus.

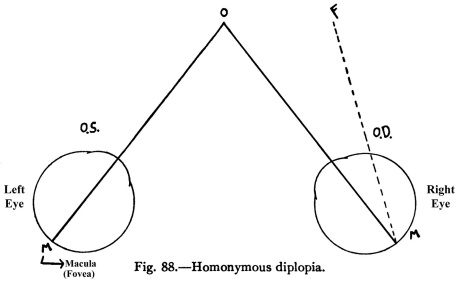


Fig. 88.—Homonymous diplopia.

Heteronymous Diplopia; Crossed Diplopia (Fig. 89).—In this condition of muscular imbalance the false object is seen on the side opposite the deviating eye. In Fig. 89 the left eye (O. S.) is fixing the object O, but the right eye (O. D.) is divergent and the image of O falls on the temporal side of the retina, which, in consequence, is projected to the nasal side at F. Crossed diplopia is produced in exophoria and divergent strabismus.

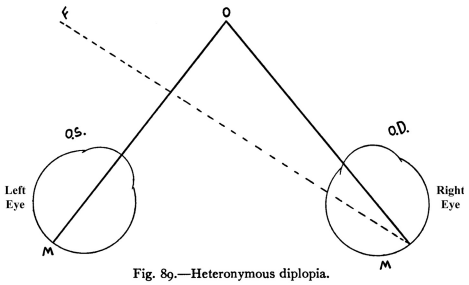


Fig. 89.—Heteronymous diplopia.

Classification.—For the sake of simplicity, a reasonable classification is given below:

Esophoria is a tendency for the visual axes to deviate inwardly.

Exophoria is a tendency toward outward deviation of the visual axes.

Looking at Close, Middle and Far Objects - Changing the Eyes' Focus, Distance of Mental-Visual Attention Produces Perfect, Equally Clear, Better than 20/20 Vision in the Left and Right Eyes at all Distances.

Read about shifting and central-fixation in this book (Chap. XV pg. 159+, XI pg. 114). Then; use them with the *Switching* practices on the following pages; Look at a close object, then at a far object in line with the close object. Then back to the close, then far again, then close... Shift part to part on the close and far objects. Look at, shift on tiny parts. Blink, breathe, relax. Avoid staring and squinting. The practice is done easy, without effort. Allow head, body movement with the eyes. Relax the neck, shoulders, keep good posture. Do not try to see clear. Avoid practicing switching as a repetitive, forceful eye exercise. No tension, no strain.

Practice, then don't practice; let the eyes, visual system work truly, completely natural producing perfect clearest vision on their own. The switching practices are similar to Behavioral Optometry. Dr. Bates includes use of mind/body relaxation, shifting, central-fixation, memory, imagination, relaxed breathing and other natural vision functions. When not *practicing* switching, it occurs naturally without placing objects in a straight line. You just look to where your interest is, at any object, distance. Switching close, middle and far on objects in line with eachother perfects; the lens and eyes' movement, function and circulation, inner, outer eye muscle function (ciliary, iris-pupil, oblique, recti...), accommodation, convergence, un-accommodation, divergence, coordinated eye movement, central-fixation, shifting. Result is perfect, equal clarity in the left and right eyes.

at fault, asked my opinion as to which of them should be operated upon. I showed the patient how to make her squint worse, and recommended that Dr. Gislason treat her by eye education without an operation. He did so, and in less than a month the patient had learned to turn both eyes in voluntarily. At first she did this by looking at a pencil held over the bridge of the nose; but later she became able to do it without the pencil, and ultimately she became able to produce every kind of squint at will. The treatment was not pleasant for her, because the production of new kinds of squint, or the making worse of the existing condition, gave her pain; but it effected a complete and permanent cure both of the squint and of the amblyopia. The same method has proved successful with other patients.

Some patients do not know whether they are looking straight at an object or not. These may be helped by watching the deviating eye and directing them to look more nearly in the proper direction. When the deviating eye looks directly at an object, the strain to see is less, and the vision is consequently improved. Covering the good eye with an opaque screen, or with ground glass, encourages a more proper use of the squinting eye, especially if the vision of that eye is imperfect.

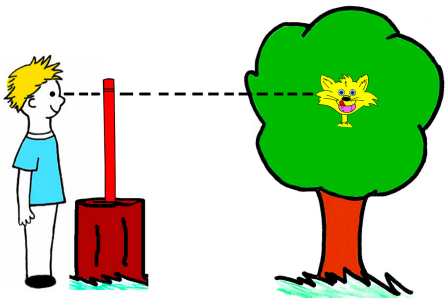
Children of six years, or younger, can usually be cured of squint by the use of atropine, a one per cent solution being instilled into one or both eyes twice a day, for many months, a year, or longer. The atropine makes it more difficult for the child to see, and makes the sunlight disagreeable. In order to overcome this handicap it has to relax, and the relaxation cures the squint.

The improvement resulting from eye education in cases of squint and amblyopia is sometimes so rapid as to be

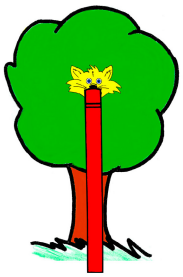
Switching Close and Far;
Place the close red pen and far cat in line with eachother. Pen and cat are in the eyes' central field - between the eyes, at eye level.

Shift on the pen, then shift on the cat in the far tree, then on the pen, then cat, pen, cat... Practice with; Both eyes together, then one eye at a time, then both eyes together again.

Next; shift on the tree and other far objects and middle distance objects. Then; move back to the cat in the tree, line it up with the pen, and switch back to the pen. Repeat. Avoid stiffness, immobility. Keep a relaxed movement of the eyes, head, neck and body. Blink. Think something happy. Enjoy the scenery. (See next pages and pg. 404 to 414.)



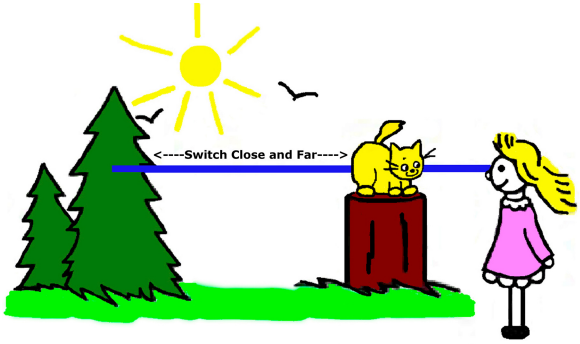
Boy Switching, Shifting on the Close Pen and Yellow Kitty (cat) in the Far Tree.



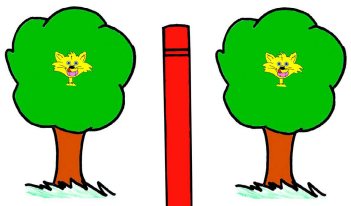
If the pen blocks the view of the far object; move the pen down until the top is at eye-pupil level. The distance of the pen is varied; 2 to 20 inches to 3 feet to 19 - 25 feet away. The far object is at any distance beyond the pen; 3 inches to 10 ft. to 200+ feet into infinity.

Pen and Yellow Kitty are aligned, in a straight line with eachother, in the center of the visual field.

< Picture on left; pen is attached to the end of a baseball cap visor. The pen can adjust to move in-out 4 inches to 3 feet from the eyes.

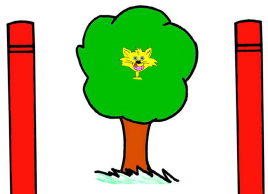


This image is seen when looking at the close pen with both eyes; The tree appears double in the peripheral field.



(Double images are not seen when using one eye at a time, looking at any distance, close or far; before, at, beyond 20 feet.)

This image is seen when looking at the distant tree with both eyes; The pen appears double in the peripheral field.



(Double images are not seen when using both eyes; when ALL objects the eyes are looking at are *far*, at about 21 to 23 feet and farther into the distance.)

Closer objects (the eyes are not looking at) before about 21 feet (1... inch to 20 ft.) will appear double.

< Picture of three objects in a straight line. This is how the close pen, cat on a tree stump at a middle distance and the tree in the far distance appear to you.

almost incredible. The following are a few of many other examples that might be quoted:

A girl of eleven had convergent vertical squint of the left eye. The vision of this eye at the distance was 3/200, while at the near-point it was so imperfect that she was unable to read. The vision of the right eye was normal both for the near-point and the distance. She was wearing glasses when she came to the office—convex 4.00 D. S. combined with convex 0.50 D. C., axis 90, for the right eye; and convex 5.50 D. S. for the left eye—but had obtained no benefit from them. When she looked three feet away from the big C with the left eye, she saw it better than when she looked directly at it; but when asked to count my fingers held three feet away from the card, they so attracted her attention that she was able to see the large letter worse. The fact was impressed upon her that she could see the card better when she looked away from it, or she could see it worse, at will; and she was also asked to note that when she saw it worse her vision improved, and when she saw it better her vision declined. After shifting from the card to a point three feet away from it, and seeing the former worse a few times, her vision improved to 10/200. The ability to shift and see worse improved by practice so rapidly that in less than ten days her vision was normal in both eyes, and in less than two weeks it had improved to 20/10, while diamond type was read with each eye at from three inches to twenty inches. In less than three weeks her vision for the distance was 20/5, by artificial light, and she read photographic type reductions at two inches, the tests being made with both eyes together and with each eye separately. She also read strange test cards as readily as the familiar ones. She

November, 1920 and other Issues of Dr. Bates Better Eyesight Magazine provide treatment for crossed, wandering eyes.

Squint Number

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. III NOVEMBER, 1920 No. 5

Make Your Squint Worse
This will help you to cure it

Squint and Amblyopia: Their Cure
By W. H. Bates, M.D.

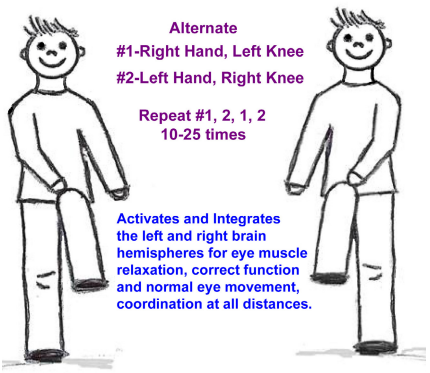
How I Cured My Child of Squint
By Mrs. B. F. Glienke

Three Cases of Squint
By Emily C. Lierman

$2.00 per year 20 cents per copy

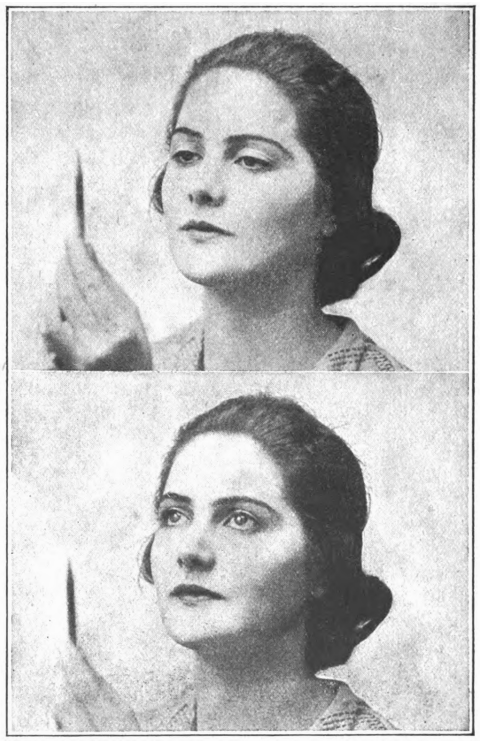
Published by the CENTRAL FIXATION PUBLISHING COMPANY
342 WEST 42nd STREET NEW YORK, N. Y

THE CROSS CRAWL

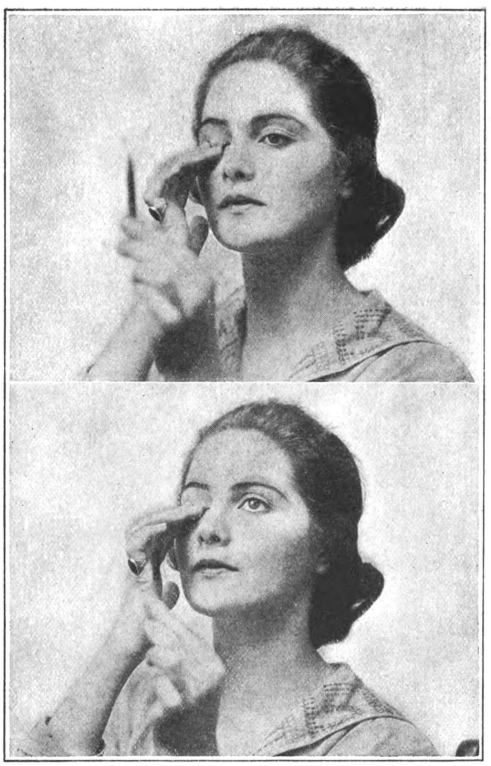


Seeing the letter worse when looking away from it is due to the letter moving into the peripheral field of vision, its light rays focusing on the peripheral field of the eyes' retina where there are less cones (light receptors that produce detailed, clearer than 20/20 vision and bright color). Objects in the peripheral should be seen worse, less clear. When the letter is placed in the central field, between the left and right eyes, eyes looking directly at it; the letter is seen best, clearest. It is perfectly clear. This is Central-Fixation. The center of the visual field is clearest due to the many cones in the macula and fovea centralis in the center of the retina. The left and right eyes combine their visual fields into one visual field; one central, one peripheral. The central field is like a small circle in the center of a big circle, between the left and right eyes, at eye level. The exact central field produced by the center of the fovea centralis, its many cones is the size of a tiny period in the circle's center. It sees fine details very clear, has better than 20/20 vision. The central field (entire visual field) moves with the eyes. When an object (actually, the part of the object the eyes are looking at) is in the central field, its central light rays focus on the macula-fovea, center of the retina, area that produces best vision. The one exact central ray from the 'point' the eyes are looking directly at focuses on the center of the fovea where there are the most cones, cones are increased and concentrated to produce the best clarity, much clearer than 20/20 vision and brightest color. Central-Fixation = see one part (point) clearest at a time, in the central field. The point regarded constantly changes as the eyes, 'central field-fovea' continually moves to a new point; shifting object to object, part to part and point to point on parts. Each point the fovea moves onto is clearest. Due to the fovea's constant movement; the entire field appears clear. In reality; the point the fovea (exact central field) is presently on is most clear. (Note; There is one true central ray; the ray that focuses on the center of the fovea. Other rays very close to it on the fovea, macula are from the outer central field close to the point regarded on the object. They can be considered central rays, but they are really peripheral. Central-fixation proves this; 2 periods .. Look at one period and see it clearest, in the *fovea's exact center*. The one true central ray is here.)

Do not try to control the eyes and clarity of vision. Forget about the eyes. Relax and use the vision. When practicing and teaching shifting; avoid thinking-saying "move the eyes". In this book, when I sometimes state; "*the part the eyes are on*", or "*the eyes shift to...*" - it means; the part of the object that the mental attention 'central field of vision' is on, moves to; *where you are looking*. For shifting - think-say; look at that part, move to this part, move here... Look at *what interests you*. See that house. The brass doorknob looks antique, has a 1879 design. The window shutters are old, paint cracking but the wood is strong. Dark pine green color. This gets the mind off of the eyes, level of visual clarity. It brings you out into the entertaining, active world. Do something fun, investigate things, fantasize. Enjoy the scenery. The mind relaxes, shifting is automatic and vision is effortlessly clear.



An eye-focusing exercise for both eyes. (See text.) Looking first at the point of a pencil held near by as in the upper photo, shift your view to look closely at a distant cloud, or some tree or building on the horizon. Immediately upon seeing the distant object, concentrate the sight again upon the pencil point until you see it sharply. Continue alternately concentrating the sight far and near from ten to twenty times.



A similar eye-focusing exercise, using one eye at a time. First concentrate on the nearby pencil point or any close object, then concentrate on some distant object, return to pencil point and continue, making it a point to see both near and far objects sharply and clearly for an instant. Same with both eyes.

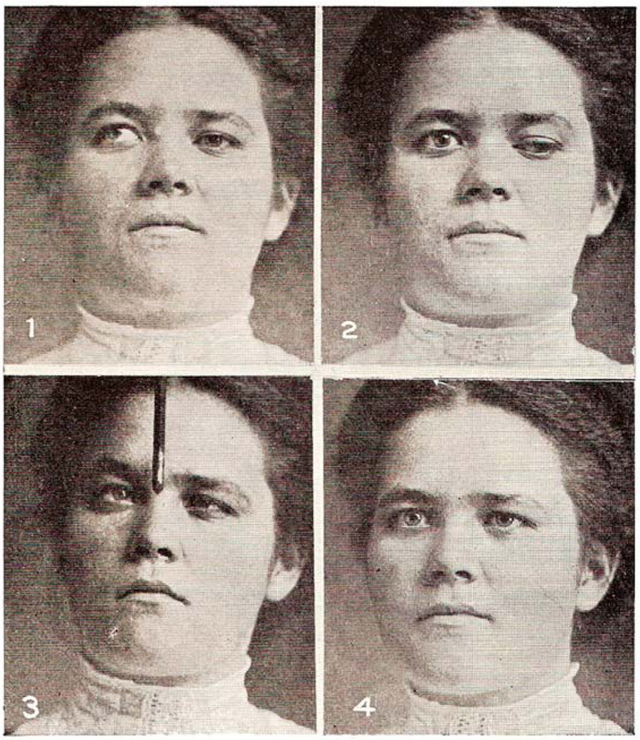


Fig. 54. Case of Divergent Vertical Squint Cured by Eye Education

No. 1.—The right eye turns out and up, the left being straight.
No. 2. The patient learns to look down and out with the left eye while the right looks straight.
No. 3.—The patient learns to turn both eyes in by looking at a pencil held over the bridge of the nose.
No. 4.—The patient is permanently cured.
All four pictures were taken within fifteen minutes of each other, the patient having learned to reproduce the conditions represented at will.

< ^ Pictures; The pencil point activates central-fixation, tiny shifts. Place it between the eyes, at eye level, in the central field. Shift on the pencil point. Then move (switch) from the pencil point to a object seen beyond it in the far distance. Shift on the far object. Move back to the pencil point. Shift. Repeat.

Do not place pointed, sharp objects near the eyes. A safer option is; Cover (cap) the pencil point. Drawn a small dot on the top center of the pencil cap. Use the dot as a small point to shift, 'centralize' on. Move from the dot to a far object seen beyond the dot. Then move from the far object back to the dot.

(If using the pencil point; do it carefully, a safe distance from the eyes.)

The pictures on the left are from the 1918 book 'Strengthening The Eyes' by Bernarr MacFadden and Dr. William H. Bates. Some of the directions in the pictures are out of date. Dr. Bates clarified the practice in his 1920 book *Perfect Sight Without Glasses*. He states; Relax. Don't try to see clear, do not use concentration, effort. Avoid squinting, staring. Shift part to part on the pencil point. Then shift part to part on the far object. Look at, shift on and see clearest one object at a time. Look at one distance at a time. Blink.

Looking close and far quickly 1 to 20 times is not constantly used. The main practice is patiently looking at, shifting on the close and far objects, shifting on a object for 1 to 5 seconds or longer. When using one eye; Do not touch the eyelid. Do not hold it down, do not close one eye. Closing one eye causes muscle tension in the eyelids, eyes, face, head, neck. Gently holding the lid down (see picture) prevents some tension but not all, and; it causes other types of tension, and pressure on the lid, eye, potential for germs, dirt. Covering the eye with the hand tenses the hand, arm, shoulders, neck. *Use a eyepatch and keep the eye open under the patch. Both eyes open, one eye patched.* Keeping the eye open, under a patch prevents all muscle tension, fatigue in the eyelids, eyes, face, head, neck and prevents use of the hand, tension in the hand, arm, shoulders...

was advised to continue the treatment at home to prevent a relapse, and at the end of three years none had occurred. During the treatment at the office and practice at home the good eye was covered with an opaque screen, but this was not worn at other times.

A very remarkable case was that of a girl of fourteen who had squinted from childhood. The internal rectus of the right eye had been cut when she was two years old, but still pulled the eye inward. The patient objected to wearing a ground glass over her good eye, because her friends teased her about it and she thought it made her more conspicuous than the squint. One day she lost her glasses in the snow; but her father, who was a man of strong character, immediately provided another pair. Then she announced that she was ill, and couldn't go to school. I told the father that his daughter was hysterical, and simply imagined she was ill to avoid treatment. He insisted that she continue, and as she did not consider herself well enough to come to see me, I called upon her. With the assistance of her father she was made to understand that she would have to continue the treatment until she was cured, and she at once went to work with such energy and intelligence that in half an hour the vision of the squinting and amblyopic eye had improved from 3/200 to 20/30. She also became able to read fine print at twelve inches. She went back to school wearing the ground glass over the good eye; but whenever she wanted to see she looked over the top of it. Her father followed her to school, and insisted that she use the poorer eye instead of the better one. She became convinced that the simplest way out of her troubles would be to follow my instructions, and in less than a week the squint was corrected and she had perfect vision in both

Continued from previous page;
The pencil point and far object are placed in a straight line with eachother.

Also spend some time switching to, shifting on far objects that are not in line with the pencil point; move from the pencil point to any object in the far distance. Face it. Shift on it. Then move to and shift on other far objects, and middle distance objects. Face the object you move to, place it in the central field. The central field moves with the eyes as they shift on the object and from object to object. Next; Move back to the pencil point from any far object; turn the head-eyes to move the central field from the far object to the pencil point at the close distance. Place the pencil point in the central field. Shift on it. Blink.

Switching close and far on objects in a straight line improves the vision, central-fixation, balances the eyes' movement, convergence, divergence... But; placing objects in a straight line limits movement of the eyes, head, body to the area where the close, far objects are lined up (*during the time you switch to the far object, and when switching back to the close*).

When objects are not lined up with the pencil point; it allows complete freedom of movement when you switch from the pencil point to the far distance. The eyes 'vision' goes to any object. As long as the head and eyes turn to face the object you move to, put it between the eyes, in the central field; the vision functions normal, relaxed. Unrestricted movement enables complete relaxation. Alternate; Practice with the far object in line with the pencil point. Stay loose, relaxed. Then; practice without lining up a far object. Just move freely from the pencil point to any far object. Then move back to the point.

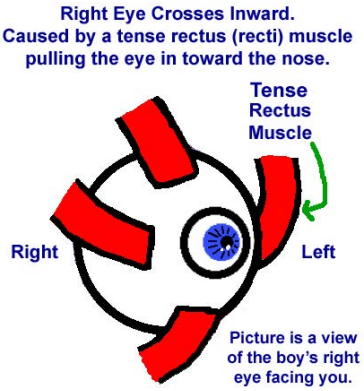
Bates teachers include 'Phoria Directional Swings' to relax and gently coax a crossed or wandering eye to move correct, into normal position; Cover the normal (straight) eye with a eyepatch. The strabismus eye, it's central field 'fovea' faces, shifts on and moves with a light or brightly colored object, picture as it moves from in front of the eye's pupil, toward and into the central field; in front of the face, between the left and right eyes, at eye level. As the object is moving forward, toward and into the central field; also move it in small or larger *forward* (in the same direction) circles. This loosens-relaxes the eye and gets it moving. Repeat, and; move the object in and out-close and far as it moves forward, toward and into the central field.

The Bead String placed in the central field is a useful device; a light (or small brightly colored ball) is placed in front of the strabismus eye's pupil. Then; it is moved to in front of the face, onto a bead on the string, in the central field, between the left and right eyes. The eye moves with the light to the bead and shifts on the bead. Hum, sing to activate the right brain hemisphere, relaxation and massage the bones in the head. (Pictures; pg. 245 and 415.)

Playing Catch; Catching objects thrown to a direction *opposite of* the direction the eye is wandered or crossed toward. This causes the eye to turn-move to the correct position. Example; if the left eye wanders outward to the < left; catch a colorful ball thrown to your right > side. Turn the eyes, head right to face the ball. Also; throw the ball to the right. Turn the eyes, head; face the ball, then face the direction you are throwing it to. Catch, throw to the right > with the left hand, right hand, then with both hands together. (when using one hand; start with the left or right hand.) Catch, throw to the < left with the left hand, right hand, then with both hands together. Catch, throw with both hands together straight ahead from the center of the body. Alternating left, right sides of the body, *dexterity* keeps the brain hemispheres, brain, body and eyes' functions balanced. The eyepatch is not used for this catching, throwing practice. The goal is to get both eyes working-moving together. Be careful when using a eyepatch; it limits the visual field, 3-D.

Other treatments; *Relaxation of the mind.* Pointing to objects, juggling, left and right brain hemisphere activation and integration 'synchronization', the long swing, sway, cross crawl, figure eight, movement and posture, color therapy. Practice shifting, central-fixation and Switching Close and Far. See page 404+. Bring the clearest vision back to the central field; the macula-fovea. Then the eye will move correct, it will coordinate with the normally moving eye. Relaxation of the neck muscles, alignment of the spine, hips, neck vertebrae and skull/eye-socket bones, jaw, the teeth is effective. Warning; Many people are being crippled (strokes, balance, hearing, vision problems, develop strabismus, astigmatism, blindness...) due to bad chiropractic treatments. It's become corrupt, doctors placing the bones out of alignment so they can sell more treatments! True chiropractic has cured blindness.., but it is dangerous. Even a honest chiropractor's treatment can result in injury, death. It is best to seek alternative methods; natural body movements, massage, physical therapy, osteopathy, yoga... (Professional only. Every field has dishonest or inexperienced doctors that injure the spine, neck...)

Strabismus, unclear vision can be caused by; Artificial 3-D TV's and computer screens, phones-video games, dominance of one brain hemisphere, one eye from the Artificial 3-D. Schoolwork, stress, strain at school, job... Dr. Bates cured many cases of strabismus with only the Bates Method, relaxing the mind-body, visual system, eye muscles. Teachers Paul E. Dennison and Gail E. Dennison have years of experience treating-correcting strabismus, learning-speech disorders, dyslexia, brain-body functions by applying Movement, Brain Hemisphere Activation, Integration-Synchronization. Books; *'Edu-K for Kids', 'Brain Gym: Simple Activities for Whole Brain Learning', 'Switching on: The Whole Brain Answer to Dyslexia', 'Personalized Whole Brain Integration'.* Some Behavioral Optometrists cure Strabismus by correcting eye-brain functions. Bates Method doctors are best, completely natural.



Avoid Eye Muscle Surgeries!

Dr. Bates states that the true cause of Strabismus (crossed, wandering eyes) is a tense eye muscle pulling the eye in the direction it is crossed or wandered toward. See pictures; the right eye crosses in toward the < left. The rectus (recti) eye muscle on the < left side of the right eye is tense and pulling the eye in, to the left, toward the nose. Result; a crossed eye. To see this from your eyes' position; look at the picture through the back of the page with a light shining on the front. Most eye doctors state that the rectus muscle on the opposite, (right >) side of the right eye is weak-lazy or too long and must be cut to tighten, shorten it to cause the muscle to pull (force) the eye out straight.

Dr. Bates disagrees. He states; The muscle on the right side of the eye is not weak, is not lazy. It is not too long. It must NOT be cut! (The eye muscles are not too long or short... Do not cut any eye muscles!)

The muscle on the right > might not be activated correct by the brain to contract and relax normally.

The tense muscle on the < left side of the eye (that is pulling on the eye, turning it inward-left to a incorrect direction) is staying contracted due to; strain in the mind-brain, incorrect function of the brain with the muscle-eye, lack of central-fixation, eye is not shifting perfectly, low-blurry vision in that eye (amblyopia) and/or other causes. Dr. Bates uses relaxation of the mind-brain, body and eye muscles, positive thoughts, emotions, correct use of the eyes-vision, posture and other natural treatments, activities to cure strabismus.

eyes. At the beginning of the treatment she could not count here fingers at three feet with the poorer eye, and in three weeks, including all the time that she wasted, she had perfect sight. When told that she was cured her

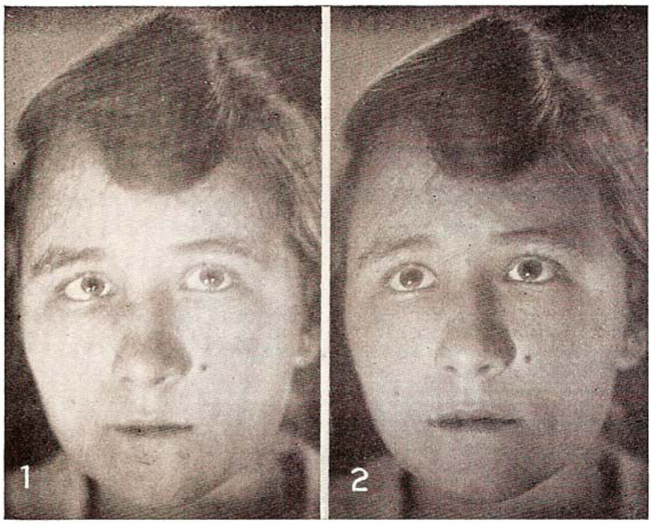


Fig. 55

No. 1.—Convergent squint of the right eye.

No. 2.—The patient is temporarily cured by the memory of a black period.

main concern seemed to be to know whether she would have to wear the ground glass any more. She was assured that she would not have to do so unless there was a relapse, but there never was any relapse.[1]

[1] Bates: L'éducation de l'oeil dans l'amblyopie ex anopsia, Clin. Opht., Dec. 10, 1912.

The use of Atropine mentioned on previous pages can be completely omitted by using natural methods taught by Dr. Bates. An eyepatch can be placed on the normal eye to cause the squint eye to improve its vision and move correct.

More Natural Cures for Strabismus; Exposure to Colored Light. Looking at different color objects placed at close, middle, far distances (Pens in a Row - pg. 408, The Bead String - pg. 245. Or any colorful objects). Central-Fixation, Shifting (relaxed, correct vision habits), improving the Memory and Imagination, relaxing the neck and shoulders. See more in this book and read Dr. Bates Better Eyesight Magazine for many Squint (crossed/wandering eyes) treatments. Natural Fusion is effective; pg. 404. See the Candle Flame practice in the Oct., 1927 and Feb., 1929 Issues. Antique print issues are free in PDF on the website. A copy of the candle flame practice, with pictures is placed on the right side and bottom of Dr. Bates pages in the Floating Specks chapter XXIII, pg. 236+. Crossed, wandering eyes are caused by; Misaligned bones in the head, eye-socket, neck, collarbone-shoulder area, spine, hips. This causes tension, pressure, pulling on the nerves in the spine, neck.., head, face, spinal cord and brain stem. Muscle tension occurs in these areas, other areas and the eye muscles. Muscle tension increases the pressure, pulling.., on the nerves, spinal cord... The tension, pressure, pulling affects the nerves that travel to the eye muscles, eyes, cornea, lens, retina, the optic nerve and brain. Nerves for the eyelids, iris, tear and oil glands, nose, sinus, ears, hearing, balance, throat-tongue-lips-speech are affected. Circulation of blood, lymph, fluids, energy in the neck, eyes, brain and body is affected. Even when the spine, neck... bones are aligned; extreme muscle tension from months, years of incorrect posture, immobility, repetitive stress injury, dehydration, low oxygen can affect the nerves, circulation... in the neck, head, eyes and body. Pressure from sinus congestion can affect the eyes' movement.

Amblyopia, *low vision* can develop in a strabismus eye. Sometimes the crossed or wandering eye creates a *false macula* in its retina's peripheral field. It is unnatural for the peripheral to do this. This occurs due to the eye not having; correct position, shifting movement, convergence, divergence and central-fixation. Vision in the area of the peripheral field that is produced by the false macula is unclear. But; it is clearer than the true macula's vision in this strabismus eye because the true macula has lost its perfect, *better than* 20/20 clarity. The false macula is away from the true macula-fovea, away from where the eye's pupil faces. The eye 'tries' to create a central field in the peripheral area of its retina, its peripheral field of vision and align it with the normal eye's true macula/fovea-central field of vision. It cannot be perfectly aligned. The eye sees abnormally; out of the side of its pupil-retina. The eye remains in an abnormal direction as it tries to align the false macula with the object of attention, use the false macula-peripheral field to see it. The head also turns or tilts abnormally. If the eye has only a small disruption of the convergence, divergence...; the eye-head posture, function is not greatly impaired. If the strabismus increases; the eye-head posture, function is more abnormal, further impaired. If the eye does not have a false macula; the head turns, tilts abnormally to see out of the front-pupil of the strabismus eye, when using that eye. These incorrect eye positions and postures impair central-fixation, normal eye movement. The eye needs to get the central field of the retina-it's *true macula-fovea* back to producing perfect clarity. In the normal eye, the center of the visual field is the clearest area; better than 20/20 vision. Looking close and far (with shifting, centralizing, relaxation) with the unclear vision eye (other eye patched) improves the vision in that strabismus eye, removes the false macula and brings back normal vision; best clarity from the center of the retina, *true macula-fovea*, producing perfect, clearest vision in the central field. Central-Fixation! Then; the strabismus eye will naturally turn correct to coordinate and move perfect with the normal positioned-moving eye. The eyes' foveas are aligned. Get *perfect* and *equal* clarity, macula-fovea *central vision* in both eyes; Practice *Switching, Shifting* on close, middle, far objects with both eyes together and one eye at a time; Page 368, 404+. Strabismus can be corrected naturally, without surgery!

A girl of eight had had amblyopia and squint since childhood. The vision of the right eye was 10/40, while that of the left was 20/30. Glasses did not improve either eye. The patient was seated twenty feet from a Snellen test card and the right, or poorer eye, was covered with an opaque screen. She was directed to look with her better eye at the large letter on the card and to note its clearness. Next she was told to look at a point three feet to one side of the card, and her attention was called to the fact that she did not then see the large letter so well. The point of fixation was brought closer and closer to the letter, until she appreciated the fact that her vision was lowered when she looked only a few inches to one side of it. When she looked at a small letter she readily recognized that an eccentric fixation of less than an inch lowered the vision.

After she had learned to increase the amblyopia of the better eye, this eye was covered while she was taught how to lower the vision of the other, or poorer eye, by increasing its eccentric fixation. This was accomplished in a few minutes. She was told that the cause of her defective sight was her habit of looking at objects with a part of the retina to one side of the true center of sight. She was advised to see by looking straight at the Snellen card. In less than half an hour the vision of the left eye became normal, while the right improved from 10/40 to 10/10. The cure was complete in two weeks.

The following case was unusually prolonged, because as soon as one eye had been cured, the defect for which it had been treated appeared in the other eye. The patient, a child of ten, had imperfect sight in both eyes, but worse in the right than in the left. The vision of the right eye was restored after some weeks by eye education, when

Thrown, Catch a Ball;
The eyes, 'mental attention, vision' are shifting on and moving with the ball. The head moves with the eyes at the same time, in the same direction - in synchronization.

This relaxes the eyes, head and neck. It activates easy *automatic* eye movements 'shifting', central-fixation and coordinates the left and right eyes' movement. Practice with; both hands together, and with one hand at a time. Practice kicking the ball.

When throwing, kicking the ball; the eyes also look to the target it is directed at.

the left eye turned in and became amblyopic. The right eye was then covered, and after a few weeks of eye education the left became normal. The right eye then turned in and the vision became defective. It was necessary to educate the eyes alternately, for about a year, before both became normal at the same time. This patient had congenital paralysis of the external rectus muscle in both eyes, a condition which was apparently not relieved when the squint and amblyopia were cured.

In the following case the patient had an attack of infantile paralysis after her cure, resulting in a relapse, with new and more serious developments, which were, however quickly cured. The patient, a girl of six, seen first on December 11, 1914, had had divergent squint of the left eye for three years, and had worn glasses for two years without benefit—convex 2.50 D. S. for the right eye, and convex 6.00 D. S. combined with convex 1.00 D. C., axis 90, for the left. The vision of the right eye with glasses was 12/15 and of the left 12/200. Atropine was prescribed for the right eye for the purpose of partially blinding it and thus encouraging a more nearly proper use of the squinting eye, and the usual methods of securing relaxation, such as shifting, palming, the exercise of the memory, etc., were used. On January 13, 1915, the vision without glasses had improved to 10/70 for the right eye, and 10/50 for the left. On February 6, the vision of the right eye was 10/40 and of the left 10/30. The eyes were apparently straight, and scientific tests showed that both were used at the same time (binocular single vision). On April 17, after about four months' treatment, the vision of the left eye was normal, and there was binocular single vision at six inches. On May 1 the vision of the left eye was still normal, and whereas at the be-

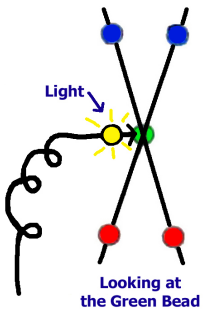
Practice with the Memory and Imagination Example; Phoria Swing with the Bead String, pg. 245. Eyes Closed; Use both eyes. Place a small light in front of the eyes, between the eyes, in the central field. Move the light and imagine you see it move. The physical eyes will move with the light image in your mind. Move the head/face with the eyes. Move the light in a forward circular motion from the left or right, toward and onto the green bead on the string. See picture > Imagine you see the light moving; the eyes, head/face move with the light to the green bead in the central field. Shift on the bead. See the free e-books on the website for more Phoria Swing pictures.

Imagine the bead and string appear correct; one green bead with the string crossing in a X on the bead. Open the eyes; continue to imagine the images appear correct. Use the light with the eyes open, then closed, then open again. Eventually the strabismus eye will move correct, align with the straight eye. Next; use the eyepatch, practice with one eye at a time.

***For safety*; use a light that does not get hot. Be careful; do not hit, touch the eyes, face with the light.**

Practice Switching on close, middle and far objects with the eyes; open, closed, open and imagine the correct images appear. Imagine clear vision. Pg. 404+.

Using the memory, imagination improves brain function with the eyes, eye muscles and vision.



Dexterity; Catching, Throwing with; Both hands together and one hand at a time; alternate left, right, left, right..,

Kick with the left and right feet. Eyes 'vision-central field' is on and moving with the ball. Alternate with the left and right hands; cooking (opening and flipping eggs, stirring soup), throwing rocks at a target, brushing your teeth, combing your hair... Catch, throw, cook... with perfect, equal *balanced* skill with each hand.

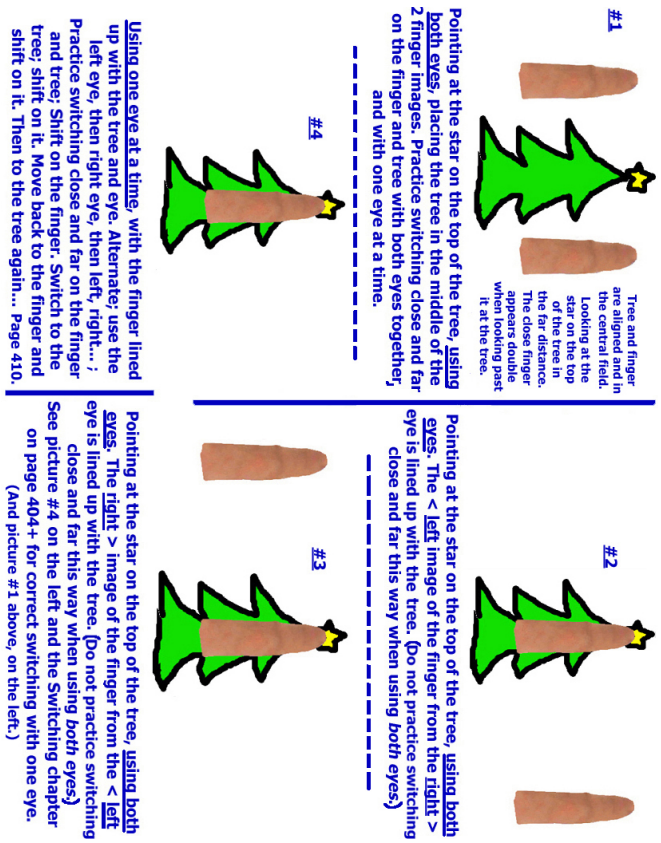
This creates coordinated eye movement, left and right brain hemisphere activation, integration, perfect brain function with the left and right eyes, retina and eye muscles.

Repeat some of the activities with the *eyes closed using the memory, imagination*. Only activities that will not cause a potential for accidents, injury. Do not hit the face, eyes... with the objects. To be safe when catching, throwing... with eyes closed; just imagine doing it. Do not physically do it. Teachers, books; The Dennisons http://www.braingym.com/index.html http://www.braingym.com/store.html

ginning the patient had been unable to read with it at all, even with glasses, she now read diamond type without glasses at six inches.

On August 16, 1916, the patient had an attack of infantile paralysis which was then epidemic. The sight of both eyes failed, the muscles that turned the eyes in and out were paralyzed, the eyelids twitched, and there was double vision. Various muscles of the head, the left leg and the left arm were also paralzyed. When she left the hospital after five weeks the left eye was turned in, and the vision of both eyes was so poor that she was unable to recognize her mother. Later she developed alternate convergent squint. On November 2 the paralysis in the right eye subsided, and four weeks later that of the left eye began to improve. On November 9 she returned for treatment without any conspicuous squint, but still suffering from double vision, with the images sometimes on the same side and sometimes on opposite sides. On November 23 the eyes were straight and the vision normal.

On July 11, 1918, the eyes were still straight and the vision normal, and there was binocular single vision at six inches. Although atropine had been used in the right eye every day for more than a year, and intermittently for a much longer time, and the pupil was dilated to the maximum, it read fine print without difficulty at six inches, central fixation overcoming the paralyzing effect of the drug. According to the current theory the accommodation should have been completely paralyzed, making near vision quite impossible. The patient also read fine print with the left eye as well as, or better than, with the right eye.



Pointing at the object you are looking at helps the eyes centralize, use *central-fixation*; both eyes looking directly at the object, placing it in the clear central field and shifting on it part to part. The pointing finger is also between the eyes, (in the central field). It moves with the eyes-vision (with the moving '*shifting*' central field produced by the fovea centralis, center of the eyes' retina) to each object you look at. Blink.

The finger appears double when looking beyond it to the far object. Place the object in the center of the 2 images of the finger to keep it in the central field, between the left and right eyes; See picture #1 above ^. The double image of the finger also acts as a 'Gate' to look through, keeping the eyes looking in the central field, where vision is best. The center (middle) of the gate is the exact central field, most clear area.

Note; when pointing-using both eyes; the eyes might line up one of the two images of the finger with the far object; this favors one eye, the finger image from the dominant *clearest vision* eye is often automatically chosen when pointing. See pictures #2 and #3 above. Covering one eye reveals which eye is producing the finger image that is on the far object.

If you tend to favor one eye, one finger image when pointing; to keep the vision, eye movement in the left and right eyes balanced and prevent one eye being dominant, *having clearer vision* than the other eye; Alternate favoring the left and right eyes; line up the < left image of the finger with the far object. Then; line up the right > image of the finger. Then left, right... Placing one finger image on the object makes the finger move in front of one eye, away from the central field, can imbalance the vision. So; keep the attention on the far object, and keep the far object between the eyes, in the central field to keep the left and right eyes' function balanced.

It is best to; place the far object in the gate-between the 2 finger images to keep the left and right eyes' movement, clarity, all functions balanced. (For reading; finger points-touches the words; the finger is not double.)

Picture #1 above ^; Practice switching close and far on the finger and far tree; with both eyes together and one eye at a time; keep the far object between the 2 finger images. This is Plain Switching - pg. 409. Next; Do Secret Switching #1 on pg. 410. See picture #4 above; Use one eye; line up the finger with one eye and the far tree; switch close and far on the finger and tree. Alternate with the left and right eyes. Patch the eye not in use.

Then; go back to picture #1 above ^ and do Secret Switching #2 on pg. 412. (See *Switching on Close and Far Objects*; pg. 228+ and the switching chapter; pg. 404 to 414 for the entire directions, three ways to switch.

Allow children (and their teachers) to point when looking at objects, reading. It's natural and improves their vision.

Juggling

Modern Bates teachers use a variety of games, exercises to activate, integrate the brain hemispheres and eye movement.

The eyes 'shift', move when juggling, the eyes following the moving balls, switching the balls between the left and right hands. Shifting improves the vision. Left and right brain hemisphere activation and integration also occurs and this improves the vision. Practice juggling clockwise, counter-clockwise.

Test for a dominant eye; curl the pointer finger to make a hole to look through. Keep the hole in the central field, between the eyes, at eye level. Using both eyes; look through the hole at a object beyond it in the distance. A double image of the finger-hole appears when looking to the far object. The eye with best vision (dominant eye) automatically looks through the image of the hole that eye produces. *The brain chooses the eye with the clearest vision*. The other eye's vision is less clear, its image of the finger-hole may be ghostly or not appear when looking past the hole to the far object. Its image of the far object is imperfect. Practice looking through the less clear eye's ghostly hole with that less clear vision eye. Improve that eye's vision with shifting and switching close and far. Imagine the finger-hole is clear and the far object you look at is clear. When the eyes have equal, perfect clarity and movement; the left and right eyes can quickly, easily look though their holes and both eyes' images are solid, clear.

It is common for one eye to be a bit dominant-have the clearest vision. The dominant eye can be the same eye for far and close distances, or it can alternate; Example; right eye is clearest (dominant) for far vision. Left eye is clearest (dominant) for close vision. Getting the vision equal and perfectly clear in the left and right eyes, at all distances - close, middle and far produces much clearer than 20/20 vision!

CHAPTER XXIII

FLOATING SPECKS: THEIR CAUSE AND CURE

A VERY common phenomenon of imperfect sight is the one known to medical science as "muscae volitantes" or "flying flies." These floating specks are usually dark or black, but sometimes appear like white bubbles, and in rare cases may assume all the colors of the rainbow. They move somewhat rapidly, usually in curving lines, before the eyes, and always appear to be just beyond the point of fixation. If one tries to look at them directly, they seem to move a little farther away. Hence their name of "flying flies."

The literature of the subject is full of speculations as to the origin of these appearances. Some have attributed them to the presence of floating specks—dead cells or the débris of cells—in the vitreous humor, the transparent substance that fills four-fifths of the eyeball behind the crystalline lens. Similar specks on the surface of the cornea have also been held responsible for them. It has even been surmised that they might be caused by the passage of tears over the cornea. They are so common in myopia that they have been supposed to be one of the symptoms of this condition, although they occur also with other errors of refraction, as well as in eyes otherwise normal. They have been attributed to disturbances of the circulation, the digestion and the kidneys, and because so many insane people have them, have been thought to be an evidence of incipient insanity. The patent-medicine business has thrived upon

The articles on the right side and bottom of pages 236 to 242 are from Doctor Bates' Better Eyesight Magazine Issues Oct., 1927 and Feb., 1929. How to Cure Squint (Crossed, Wandering Eyes). The Candle Flame Practice.

Squint
October, 1927
By W. H. Bates, M.D.

DEFINITION. When one or both eyes are habitually turned in toward the nose, the condition is called internal squint or convergent strabismus. When the eyes turn out, it is called divergent squint. Sometimes one eye may be turned up, while the other remains straight or may be turned down. This has been termed vertical squint. Some cases of squint may be a combination of several kinds of squint, vertical convergent or vertical divergent.

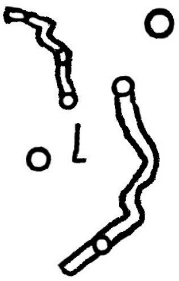
CAUSE. The cause of squint is a mental strain. Internal squint is produced by a different strain from the one which turns the eyes out, upward or downward. Double vision is produced by a mental strain different from that which lowers the vision or causes fatigue, pain or dizziness. Normal eyes have been taught to consciously produce all kinds of squint at will. This requires an effort which is variable in its intensity.

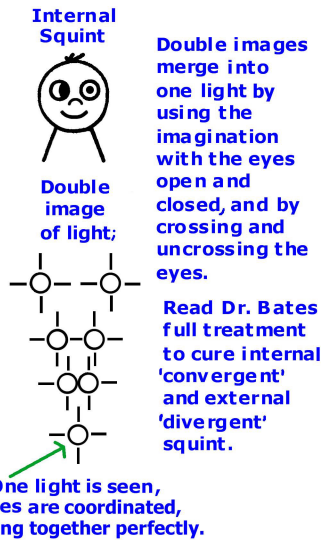
The facts suggest that since squint in all its manifestations can be produced at will, it should be considered curable by eye education, and this has been demonstrated in all cases. It is a well known fact that many persons, including children, can learn how to produce squint and become able to relieve permanently all the varied symptoms of squint. The success of the operative treatment of squint is very uncertain.

TREATMENT. Since squint is always caused by an effort or a strain to see, mental relaxation is a fundamental part of the successful treatment. This may explain why teaching the eyes to see better is a relaxation method, which promotes the cure of the squint. If the vision of each eye is about one-half of the normal, the right or the left eye may turn in. With an improvement in the vision of each eye to the normal, the eyes may become straight.

If the good eye has a vision of 15/20 while that of the poorer eye is only 15/70, improving the vision of the good eye may also improve the vision of the eye that turns in and the eyes may become straighter.

Floating Specks.





them, and it would be difficult to estimate the amount of mental torture they have caused, as the following cases illustrate.

A clergyman who was much annoyed by the continual appearance of floating specks before his eyes was told by his eye specialist that they were a symptom of kidney disease, and that in many cases of kidney trouble disease of the retina might be an early symptom. So at regular intervals he went to the specialist to have his eyes examined, and when at length the latter died, he looked around immediately for some one else to make the periodical examination. His family physician directed him to me. I was by no means so well known as his previous ophthalmological adviser, but it happened that I had taught the family physician how to use the ophthalmoscope after others had failed to do so. He thought, therefore, that I must know a lot about the use of the instrument, and what the clergyman particularly wanted was some one capable of making a thorough examination of the interior of his eyes and detecting at once any signs of kidney disease that might make their appearance. So he came to me, and at least four times a year for ten years he continued to come.

Each time I made a very careful examination of his eyes, taking as much time over it as possible, so that he would believe that it was careful; and each time he went away happy because I could find nothing wrong. Once when I was out of town he got a cinder in his eye, and went to another oculist to get it out. When I came back late at night I found him sitting on my doorstep, on the chance that I might return. His story was a pitiable one. The strange doctor had examined his eyes with the ophthalmoscope, and had suggested the possibility of glau-

Convergent and Divergent Squint *(strabismus)* Cure

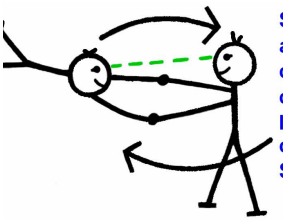
Imagine *Normal* Eye-Vision Function;

+Look at the light. Cross the eyes. Imagine and see a double image of the light with the eyes open, then closed, then open.

+Imagine the left eye sees its image correct, the right eye sees its image correct.

+Uncross the eyes and look directly at the light. See and imagine the images move closer together and merge into one image of the light.

Do this with; eyes open, closed, open.



Swing the child in a circle counter-clockwise, clockwise... Feet leave the ground, child looks up. Straightens eyes.

Sway side to side. Body–head–eyes move together, in synchronization, at the same time, in the same direction.

The Sway relaxes the mind, body, eyes and prevents; effort to see, strain, blur and strabismus.

In many cases of squint, double vision can be demonstrated. These cases are more readily cured than those cases of squint which do not see double. This fact suggests that all cases of squint should be taught how to produce double vision. When the patient regards a small light with both eyes open, it is possible to encourage him to see two lights with the aid of prisms, the blue glass over the eye with good sight, when the light seen by the good eye is very much blurred. If the person is unable to imagine two lights a short or long distance apart, palming frequently helps. By resting the eyes with the aid of palming, the separation of the two lights is changed. With the help of the swing, central fixation, the two images approach each other and may merge into one light.

(If prisms are used; it is temporary, used only during part of this practice to enable the patient to see-locate and then control and correct the incorrect image produced by the strabismus eye. Its a specific type of prism. This is not use of prisms as a prescription/eyeglass. Dr. Bates cures his patient's eyes, vision without glasses. First, try doing the practice completely natural, without a prism; look at the small light, put it in the central field-between the eyes. Cross the eyes (the best you are able to) and imagine and see a double image of the light. Do this with; the eyes open, then with the eyes closed using the memory, imagination, then with the eyes open again. Slowly uncross the eyes and imagine and see the two light images move closer together as you look closer and closer to the light-distance it is at. The two lights merge into one light when the eyes are completely uncrossed, looking directly at the light-distance it is at. Imagine and see one light. Do this with; the eyes open, then with the eyes closed using the memory, imagination, then with the eyes open again. If the light is at a close distance; the eyes will cross (converge) a specific *normal* amount to focus on the light; the light will be single. Practice with the light at different distances. And; look farther-past it and closer-before it and see it appear double. Then look directly at it, see it single. Check for correct images, placement, spacing, level of the images for each eye. See the Pens in a Row, Bead String and Switching pages for correct images. If the double image does not appear; use the prism briefly as Dr. Bates teaches to help the eyes-brain locate the image. *The paragraph below describes a extra cure for strabismus taught by Dr. Bates; he teaches the patient how to imagine, see, control-move and correct the abnormal double image that is created-seen by a strabismus eye/eyes when looking at a object, the distance it is at. And; how to imagine, see, control-move the abnormal image/images produced by a eye/eyes with a certain type of strabismus, to cure another type of strabismus. Example - To correct a eye that crosses in; the opposite strabismus is imagined; imagine, see, control-move the abnormal image seen by a eye that wanders out. Eventually the patient can imagine and see the normal images created by normal eyes; the eyes move correct, the object the eyes are looking at is single.*

Here is Dr. Bates' extra cure; Squint cases are materially benefited when they become able, by an effort, to imagine the double vision better with their eyes closed than with their eyes open. They are able to demonstrate with their eyes closed that the image seen by the right eye is to the right of the image seen by the left eye. This is called ***homonymous diplopia***. (Convergent, internal strabismus-crossed eye. Esotropia). See page 241 for pictures of homonymous and crossed diplopia, esotropia, exotropia of the right eye.) By a little training or encouragement, they become able to imagine the two images closer together by relaxation methods. When the image seen by the right eye is to the left of the other image, it is called *crossed diplopia* and, with few exceptions, divergent squint (Exotropia) is present. With the eyes closed, a person with internal squint may imagine double vision with the images separated or close together. Or he may become able to imagine the images crossed, or the image seen with the right eye to be to the left of the other image; in other words, he may be able to produce divergent squint with the aid of his imagination. **A number of people have been cured of internal squint by teaching them how to produce divergent squint.** Practice with the object at a variety of distances until it is seen single and clear at all distances. See left eye cure pg. 242.

Dr. Bates extra practice described above is only for patients that have strabismus. If your eyes, vision are normal; do not imagine, see the abnormal images seen by strabismus eyes. Imagine and see only the normal correct image of the object seen by normal eyes, vision; one single image of the object in the central field when looking directly at the object. And also imagine, see the normal double image seen when looking past or before the object (eyes uncrossed, crossed). If you have strabismus; first try the other treatments; Switching close, middle, far, central-fixation and shifting, long swing, sway, opposite movement, cross crawl, relaxation, phoria swings, imagining the correct images, and other practices in this book. Many squint cures are in Dr. Bates Better Eyesight Magazine. 132 magazine articles are on pg. 330. If these practices do not correct the strabismus; then, try Dr. Bates extra practice of imaging and seeing the image of the type of strabismus that is opposite of your eye's type of strabismus. And then control the images and imagine and see the correct images. Work with a Bates Method Behavioral Optometrist or Ophthalmologist to be sure it is done correct.

Young children, two years of age, have been cured of all forms of squint by swinging the whole body in a circular direction and swinging them strongly enough to lift their feet from the floor. While swinging, the hands of the child are held by the hands of an adult who may be swinging them. At the same time the child is encouraged to look upward as much as possible. The little patients always seem to enjoy this form of exercise. Games of all kinds have been practiced with much benefit to the squint in children. One can obtain small toy animals of various sizes and colors. The names of the animals and their colors can be taught to the children. In the beginning they learn the names of the animals more readily when they are close, about two feet away. When the child recognizes each animal correctly at this distance, one can, by gradually placing each animal further off, improve the vision for a greater distance. The more perfectly the child becomes able to see the animals, the less is the squint. Teaching children with squint the names of the different colors at a near or greater distance is a benefit. In the beginning, the size of the colors may need to be large to help the memory, imagination or sight. As the sight improves, the child becomes able to distinguish the colors of very small objects. One may need to spend half an hour or longer daily for some weeks in order to improve the vision for colors to the maximum. Numbers and letters of the alphabet can also be taught to the child who has squint, with benefit.

coma, describing the disease as a very treacherous one which might cause him to go suddenly blind and would be agonizingly painful. He emphasized what the patient had previously been told about the danger of kidney disease, suggested that the liver and heart might also be involved, and advised him to have all of these organs carefully examined. I made another examination of his eyes in general and their tension in particular; I had him feel his eyeballs and compare them with my own, so that he might see for himself that they were not becoming hard as a stone; and finally I succeeded in reassuring him. I have no doubt, however, that he went at once to his family physician for an examination of his internal organs.

A man returning from Europe was looking at some white clouds one day when floating specks appeared before his eyes. He consulted the ship's doctor, who told him that the symptom was very serious, and might be the forerunner of blindness. It might also indicate incipient insanity, as well as other nervous or organic diseases. He advised him to consult his family physician and an eye specialist as soon as he landed, which he did. This was twenty-five years ago, but I shall never forget the terrible state of nervousness and terror into which the patient had worked himself by the time he came to me. It was even worse than that of the clergyman, who was always ready to admit that his fears were unreasonable. I examined his eyes very carefully, and found them absolutely normal. The vision was perfect both for the near-point and the distance. The color perception, the fields and the tension were normal; and under a strong magnifying glass I could find no opacities in the vitreous. In short, there were absolutely no symptoms of any

Double Vision

Not all children are conscious of seeing stationary objects multiplied. When they reach the age of six years or older, double vision, when it occurs, is usually very annoying. Adults with double vision and squint are usually more seriously disturbed than are young children.

One of the best remedies for double vision is palming for longer or shorter periods of time. It is well to remember that while double vision often requires the vision of each eye, one may have multiple images referred to each eye alone.

Any method of treatment which secures relaxation, corrects the double vision and lessens the squint. Some patients are benefited by standing with the feet about one foot apart, the arms and hands hanging loosely at the sides, while they sway the body slowly, continuously, easily, from side to side. The swaying of the body from side to side lessens or prevents concentration or other efforts to see. Since double vision can be demonstrated to be caused by concentration or some other effort to see, the prevention of effort by the sway naturally lessens or corrects double vision. Should this not be sufficient to cure the squint, one may practice blinking, palming, or the memory or the imagination of prefect sight.

The Snellen test card may be useful in the cure of squint. While swaying from side to side, standing a few feet from the card, all stationary objects in the field of vision may appear to be moving in the opposite direction to the sway. More distant objects, that have no background, may appear to move in the same direction as the movement of the body. When practicing with a white card with black letters, the whiteness of the card improves in whiteness, while the blackness of the letters becomes darker and the vision improves.

Case Reports

About fifteen years ago, a southern lady came to me with her daughter, age ten. When she arrived at the office, she found a number of patients who had come to be cured of their bad eyesight without glasses. She was one of those nervous people who disliked above all things in this world to have to wait, especially in a doctor's office. When my secretary advised her not to wait, she took a firmer grip on the arms of her chair and resolved to see it through.

The child was suffering from well marked alternate internal squint. Sometimes the right eye would turn in so far that the pupil was covered over by the inner corner of the lids. At other times, the child was observed to be afflicted with internal squint of the left eye. Her mother told me that they had been to several large cities, including the capitals of Europe, where she had hoped to obtain a cure for her daughter's squint.

The child was an avid reader and had read many books. Her memory was unusually good. She also had a very good imagination. She could read the 10 line of the Snellen test card at more than twenty feet in a good light. When the light was poor and her vision was tested with the aid of a strange card, she was able to imagine correctly each of the four sides of any letter. For example, the letter "E" was the fourth letter on the fifth line of the test card. When the test card was placed thirty feet away in a poor light, she was unable to distinguish the letter as a whole.

After closing her eyes and covering them with the palms of both hands (palming), she imagined the left side of the "E" to be straight. When she imagined the left side of the "E" was curved or open, she strained. She imagined the top straight, and the bottom straight, and the right side open, which was, of course, correct. When any of the sides were imagined wrong, she always strained and was more or less uncomfortable.

She was then asked to imagine the fourth letter on the sixth line. She was still practicing palming. She was able to imagine the left side of the unknown letter to be straight, the top straight, the bottom open and the right side open. She imagined that the letter was an "F" and was correct.

She was then tested with diamond type at about ten feet from her eyes, a distance at which it was impossible for her to read the letters. She was then told to palm. While palming, she was asked to imagine the first letter of the fourth word, on the fifteenth line of the diamond type. With her eyes closed and covered, she was able, without effort, by imagining each of the four sides correctly to demonstrate a letter "M." She imagined this letter so perfectly that she was able also to imagine other letters of the same word correctly. The exercise of her imagination was continued for an hour during which time she imagined correctly a number of lines of the diamond type. The result was very gratifying, because the squint disappeared in both eyes and the relief was manifest two days later. The mother supervised the imagination of the fine print for half an hour daily for many days and weeks, with the result that at the end of six months, the child's eyes were still straight. The treatment was then discontinued, and at the end of five years, her eyes still remained straight. (Reading the tiny Diamond Print letters activates central-fixation, relaxation. This aligns-synchronizes the left and right eyes' fovea centralis, visual axis. Imagining and seeing one letter clear causes all letters, objects to be clear. Relaxation, perfect eye movements continue for every object you look at.)

A girl, aged twenty-five, was afflicted with a complicated squint of various muscles of the eyeball of each eye. She habitually looked straight with the right eye, while the left eye turned down and out. When the right eye was covered, the left eye looked straight, and the right eye turned down and out. She had a vertical divergent squint in each eye. At times, she turned the left eye up and inward.

She was instructed to produce all forms of vertical, internal or external squint. With her eyes closed, she was directed to place her fingers lightly on the outside of the closed eyelids. With the help of her imagination, she became able to move the right eye in, while the left eye remained straight. When the left eye turned in, the right eye remained straight. She could produce every imaginable form of squint with her eyes closed, better than she could produce a squint with her eyes open. With her eyes open, she was able to do it in flashes or temporarily and later more continuously. It was interesting to observe how readily the patient could tell by the sense of touch whether the eye was looking in, out, down, up, or straight.

disease. I told the patient there was nothing wrong with his eyes, and I also showed him an advertisement of a quack medicine in a newspaper which gave a great deal of space to describing the dreadful things likely to follow the appearance of floating specks before the eyes, unless you began betimes to take the medicine in question at one dollar a bottle. I pointed out that the advertisement, which was appearing in all the big newspapers of the city every day, and probably in other cities, must have cost a lot of money, and must, therefore, be bringing in a lot of money. Evidently there must be a great many people suffering from this symptom, and if it were as serious as was generally believed, there would be a great many more blind and insane people in the community than there were. The patient went away somewhat comforted, but at eleven o'clock—his first visit had been at nine—he was back again. He still saw the floating specks, and was still worried about them. I examined his eyes again as carefully as before, and again was able to assure him that there was nothing wrong with them. In the afternoon I was not in my office, but I was told that he was there at three and at five. At seven he came again, bringing with him his family physician, an old friend of mine. I said to the latter:

"Please make this patient stay at home. I have to charge him for his visits, because he is taking up so much of my time; but it is a shame to take his money when there is nothing wrong with him."

What my friend said to him I don't know, but he did not come back again.

I did not know as much about muscae volitantes then as I know now, or I might have saved both of these patients a great deal of uneasiness. I could tell them that

Many patients have been cured of internal squint by teaching them how to produce divergent squint, either with the eyes open or with the eyes closed. There were times when it was difficult for the patient to produce some forms of squint. With the aid of a small candle light, with the eyes open, the patient could imagine she saw two candle flames. The one seen by the right eye was to the right of the one seen by the left eye when one or both eyes turned in. By practice, she became able, with an effort, to increase the distance between the two candle flames. By lessening the effort, she became able to bring the two candle flames closer together, which was evidence that the squint required an effort and that a cure could be expected when the eyes were relaxed.

There were times when her ability to produce internal squint with her eyes open was not always easy. With her eyes closed, her imagination of the two candle flames was better. With an effort, she was able to imagine the candle flame seen by the right eye to be to the left of the candle flame seen by the left eye. In other words, the two candle flames were crossed. With her eyes closed, she could imagine the crossed images farther apart, or she could bring them closer together by relaxation until they merged into one. Her ability to produce all kinds of squint helped her to do those things which were necessary to correct the squint. She devoted many hours to the production of vertical squint which enabled her to quickly correct divergent squint. When she became able to produce internal squint, it was not long before she was able to correct external squint.

When the patient began treatment, she was wearing glasses for the correction of imperfect sight. After her eyes became straight by eye education, her vision became normal without glasses. Because of her wonderful control of her eye muscles, very satisfactory photographs were obtained of her eyes. Strabismus Cure; Shifting, central-fixation, imagination, relaxation. No effort to see clear. Do not use effort, strain, force to keep the eye straight/normal. Keep a eye/eyes straight-normal with relaxation.

BETTER EYESIGHT
FEBRUARY, 1929

In searching through the literature for facts I found some very queer statements. One very prominent ophthalmologist published in a medical journal the statement that the blindness of squint could not be cured. In the very next sentence, he gave the history of a patient born blind with amblyopia, squint, and cataract who obtained perfect sight by treatment. The patient was forty years of age. The cataract in both eyes was operated upon successfully. The patient had never seen letters and could not read a newspaper, even with small size headlines. He could see flowers of different colors but he did not know the names of any of them. He was taught the names of familiar objects that he saw and in a very short time his eyesight seemed to be normal.

The eye surgeon called attention to the fact that the imperfect sight was improved to the normal by treatment of the eyestrain.

their eyes were normal, but I did not know how to relieve them of the symptom, which is simply an illusion resulting from mental strain. The specks are associated to a considerable extent with markedly imperfect eyesight, because persons whose eyesight is imperfect always strain to see; but persons whose eyesight is ordinarily normal may see them at times, because no eye has normal sight all the time. Most people can see muscae volitantes when they look at the sun, or any uniformly bright surface, like a sheet of white paper upon which the sun is shining. This is because most people strain when they look at surfaces of this kind. The specks are never seen, in short, except when the eyes and mind are under a strain, and they always disappear when the strain is relieved. If one can remember a small letter on the Snellen test card by central fixation, the specks will immediately disappear, or cease to move; but if one tries to remember two or more letters equally well at one time, they will reappear and move.

Usually the strain that causes muscae volitantes is very easily relieved. A school teacher who had been annoyed by these appearances for years came to me because the condition had grown recently much worse. I was able in half an hour to improve her sight, which had been slightly myopic, to normal, whereupon the specks disappeared. Next day they came back, but another visit to the office brought relief. After that the patient was able to carry out the treatment at home, and had no more trouble.

A physician who suffered constantly from headaches and muscae volitantes was able to read only 20/70 when he looked at the Snellen test card, while the retinoscope showed mixed astigmatism and he saw the specks. The surgeon described how the cataract was removed and how the patient became able to read by being taught by school teachers who discovered the difference in the vision of each eye. The eye which habitually turned in had very imperfect sight. The vision of one eye and later both eyes improved to the normal by eye education which relieved or cured the eyestrain. Some of the readers of this doctor's article asked him embarrassing questions and he finally stated that he now believed amblyopia could be cured by eye education. He had unconsciously practiced my method. The amblyopic eye was blind from eyestrain and vision was restored after the eyestrain was relieved by relaxation treatment.

To obtain improved vision with the good eye covered, one patient wore a shade over the eye which was straight, while the vision of the squinting eye was benefited by eye education. At the end of a few months it was found that the eye which formerly had looked straight was now turned in. At periodic integrals the right eye became straight while the left eye turned in. After covering the good eye with a screen, the vision of the other eye became straight. It required several months before both eyes became straight at the same time and each had good vision. (Eye muscles, eyes, retina function improving, re-learning how to work with the brain, visual cortex, left and right brain hemispheres. Practice imagining, remembering, seeing and controlling-moving images/double vision to cure crossed, wandering eyes.)

In the cure of squint without operation it is important that the instructor become able to practice a few fundamentals in order that the patient may be more readily taught to do the same. In all cases of squint, double vision should be imagined at three feet, ten feet, twenty feet or farther. It often requires considerable practice before the teacher can produce double vision. *The best possible vision should be obtained in each eye before much is attempted to cure the squint.*

Most children can see or imagine double vision by practicing with a lighted candle or other object. In some cases two candles are imagined five feet apart when one is practicing with a candle at twenty feet. By closing the eyes and resting them, it is possible for the patient to demonstrate that two objects appear to be five feet apart, by the use of the memory. Images five feet apart can be imagined to be either more or less separated.

The eyes of most people are capable of remembering, imagining, or apparently seeing two images one foot apart at twenty feet. If the objects are on the same level they can usually be controlled much better than when one is higher than the other. In a case of convergent squint it is quite easy to imagine the two objects as they should be imagined (*as are seen by eyes with convergent squint, described on pg. 237*); the image of the right eye should be to the right, the image of the left eye should be to the left. When the two images are on separate levels it is well to practice so as to attain the two images on the same level. This makes it easier to control the two images in other directions. By alternately regarding the images without effort or strain, they will approach each other until they touch, overlap or become fused into one object. Then more practice should be done with the object of obtaining control of the location. By some forms of effort the image of the right eye may be forced to the left while the image of the left eye may be forced to the right.

This should be practiced for half an hour or longer, forcing the images seen by each eye to appear crossed. At first the images are not controlled; they may cross and separate a wide distance, three feet, or even six feet.

(See pg. 237 and 241 for imagining, seeing, controlling-moving and correcting convergent and divergent strabismus images to cure strabismus.)

It is well to practice the production and control of the crossed images in cases of convergent squint in which the image of the squinting eye does not always reach a position on the opposite side of the image seen by the right eye. It is interesting to observe how quickly two images can be made to cross, to approach each other, to touch, and to merge into each other and form one. By practicing the production of crossed images a considerable time each day the crossed images become consciously, habitually, or permanently crossed when a cure is obtained. (The double images move toward eachother, easily merge into one image when looking directly at the object, distance it is at.)

A girl, aged fourteen, had vision of the right eye of 3/200 while that of the left eye was 20/10. When she was two years old the tendon of the muscle which turned the right eye inwards was cut. The result was variable. Sometimes the eye turned in as before, but there were periods when the right eye was straight. Relaxation methods were employed daily with success and the squint became less when the vision improved.

The method which helped the most was to improve the vision of the amblyopic eye by remembering or imagining perfect sight of one letter of 20/10 with the eyes alternately closed and open. The vision of the right eye improved until it became 20/10. The patient was also encouraged to imagine fine print six inches from the right eye. When she succeeded in improving her vision for twenty feet and later her ability to read fine print at six inches, the squint disappeared. Both eyes focused on one point at the same time.

Central fixation or seeing best a letter or other object regarded while all other points are seen worse, is a successful method of curing squint and improving the sight in cases of squint. A very remarkable patient, a girl aged eight, was treated more than fifteen years ago. The vision of the right eye was 2/200 while that of the left eye was 10/200. The right eye turned in most of the time. The vision of the left eye was improved without glasses by alternately resting the eyes. An attempt was made to teach her how to see best where she was looking. She very soon acquired the ability to practice central fixation when the larger letters were regarded. The child became much interested when she realized that her eyes felt better, while the vision and squint improved. She practiced central fixation on smaller letters and other objects. The strain which was manifest by the contortions of the muscles of her eyes, face, and other parts of her body disappeared. Her voice became more musical with the improvement of her vision and the subsidence of the squint. It was remarkable how well she became able to practice central fixation on very small letters and other objects. She would hold a glass slide on which a small drop of blood was mounted, and claim that she saw the red cells, the white cells, and other minute particles with her right eye while the glass slide was pressed against her eyelashes. She was able to read each letter and period in photographic reductions of the Bible, by central fixation. (*Many more doctor-patient stories, cures are in Dr. Bates Better Eyesight Magazine.*)

Many people have complained that they could not see black or imagine a black period for an appreciable length of time. This patient, when palming, stated that black was seen and that with the aid of central fixation even the smallest black periods were seen but they were always moving a distance nearly equal to the width of the period. (Good! Moving period means the eyes are doing tiny shifts *saccades*.) An effort to see always failed. Distant objects were seen as far off, by central fixation, as it was possible to imagine them.

This patient was able to produce at will, consciously, and continuously, internal squint of the right eye with the left eye straight or could keep the right eye straight while the left eye turned in. *Also practice this method*; To see normal double images seen by normal positioned eyes; Place 2 objects in a straight line at a close and far distance, both in the central field-between the eyes. Example; A pen placed close at 2 to 5 ft. A tree in the distance at 10 to 200+ ft. When looking at the close pen; the far tree appears double. The right eye sees the right > image of the tree. The left eye sees the < left image of the tree. When looking at the far tree; the close pen appears double. The right eye sees the < left image of the pen. The left eye sees the right > image of the pen. Practice looking close and far and imagine, see these correct double images, each eye showing its correct image. Do this with the eyes open. Then with the eyes closed using the memory, imagination. Then with the eyes open again. Next; look directly at the pen and see the double image of the pen merge into one pen. Look directly at the tree and see the double image of the tree merge into one tree. The distance you are from a object *you are not looking at* affects the width of the spacing of its 2 images; Look at the close pen held at 1 ft. from the eyes as you walk toward a clock 20 ft. away, in line with the pen. See the 2 images of the clock move closer together as you move closer to the clock. Walk backwards away from the clock and see the 2 images move farther apart. The distance of the pen from the eyes also changes the spacing of the 2 images of the clock; Look at the pen, move it close and far and see the 2 clock images move.

When he looked at a blank wall, or a blank white card, the retinoscope still showed mixed astigmatism and he still saw the specks. When, however, he remembered a black spot as well as he could see it, when looking at these surfaces, there were no specks, and the retinoscope indicated no error of refraction. In a few days he obtained complete relief from the astigmatism, the muscae volitantes, and the headaches, as well as from chronic conjunctivitis. His eyes, which had been partly closed, opened wide, and the sclera became white and clear. He became able to read in moving trains with no inconvenience, and—what impressed him more than anything else—he also became able to sit up all night with patients without having any trouble with his eyes next day.

Pictures for the Strabismus chapter XXII are continued to page 244;

Measurement of the Deviation

The production of diplopia is readily understood. If the right eye turns inward, as in Fig. 48, then as the

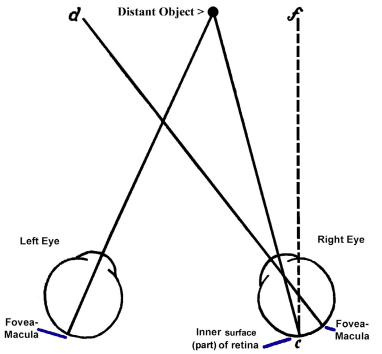
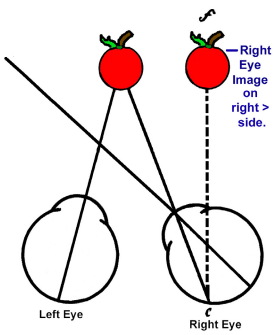


FIG. 48.—Homonymous diplopia, with esotropia in the right eye.



Another example of a crossed right eye and its image. Apple appears double. *Diplopia = Double Vision*

image falls on the inner surface of the retina (at *c*) it is projected outward and to the right in the direction of *f*, and we have as a result a homonymous diplopia. Or if, as in Fig. 49, the right eye turns outward, then the image of the distant object falls on the outer part of the retina and the image is projected to *f*. In that case, of course, we have a crossed diplopia.

f = Outward wandering right eye's image is projected to the Left <, on the left side of the left eye's image.

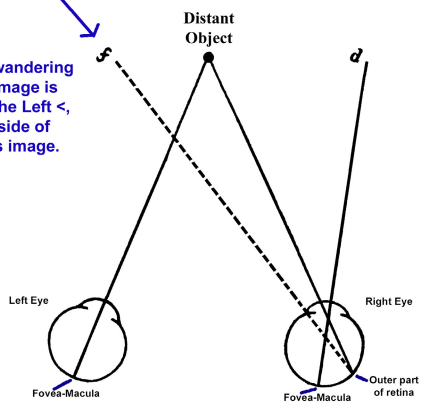


FIG. 49.—Crossed diplopia, with exotropia in the right eye.

Fig. number 48, 49 and pictures with Fig. numbers above #56 are from antique ophthalmology books. They are not part of Dr. Bates' list of Illustrations.

Floating Specks

WHEN a patient stares or strains to see by looking at a light-colored surface he may see, or imagine he sees, floating black specks, strings of black thread or small light-colored globules resembling tears. The floating specks may be apparently a quarter of an inch or more in size and they may be of any shape.

The ability to see or imagine floating specks may occur in children or in adults of any age. Some children have been known to lie on their backs on the ground, look up at light colored clouds and amuse themselves for hours by watching what appeared to be floating specks.

Many nervous people have been made very unhappy, consciously or unconsciously imagining that they see these floating specks.

The cause of floating specks is an imperfect memory of perfect sight. Persons with normal vision who have never been conscious of floating specks can be taught how to imagine them by straining—to imagine letters, colors or other objects imperfectly.

Conversely, patients who are conscious of floating specks are unable to imagine them and perfect sight at the same time.

In the treatment of floating specks it is important to convince the patients thoroughly that they are only imagined and not seen. It helps very much to impress on the patient's mind that to see these floating specks requires a sufficient strain to lose a perfect imagination of all objects seen, remembered or imagined at all times and in all places.

Note.—Floating specks, October, 1919, "Better Eyesight."

Muscae volitantes (floating specks), pages 176 and 236, "Perfect Sight Without Glasses."

Even young people and children with perfectly healthy eyes-vision can sometimes see floating specks. Most doctors say they are left over parts of cells... from the eyes' growth before-after birth and other debris. A healthy diet, fasting-cleansing, drinking a lot of water can flush them out. *Shifting, central-fixation, relaxation, sunlight* and *clearing the sinus, relaxing the muscles in the shoulders, neck, head and eyes* can make floaters disappear.

Myopia, farsight, presbyopia, astigmatism and mental strain can cause floaters. Usually they are harmless, if eyeglasses are avoided. Wearing glasses, contact lenses leads to detached retina, vitreous and floaters.

Being hit in the head, eyes, neck can cause floaters. Get a eye exam to inspect the eyes, retina and vitreous... Many floaters, a sudden shower of them falling downward in the vision can be a symptom of detached retina which can occur from injury or (most often) from wearing stronger and stronger eyeglasses or contact lenses. Flashing blue... lights is a symptom of various types of retina impairment, broken blood vessels in the retina.

Stop wearing glasses, contacts *before* these problems, blindness develop! Read more on page 314; lights can be caused by headaches, a stiff neck.

Sinus congestion, irritation from dry heat-air, poor air quality, mold, pollen, hair dye, cosmetics, eyeliner, skin cream, soap, chemicals, spray paint... can affect the eyes, cornea resulting in other types of floaters, visual effects. Congestion, toxins can travel into the eyes and ear eustachian tube. Sinus congestion and tense shoulder, neck, head, jaw muscles *causing tense eye muscles* places pressure on the eyes, causes stiff and disrupted eye movement resulting in unclear vision, astigmatism, various visual effects and dizziness. A warm steam humidifier or vaporizer with pure sea salt, 3X purified water, (no chlorine, no fluoride, no menthol, no germs...) can heal the sinuses.

When the retina, eyes are healthy, the eye muscles and mind-body-eyes are relaxed, the eyesight is improved naturally, the body has a good diet; the floaters are removed by the circulation, lymph, tears... and the *brain*. When the eye muscles relax, the eyes return to normal shape and movement. This causes the floaters to disappear. Floaters from the eyes' growth, some injuries can also be blocked out by the brain, without blocking the vision.

Most floaters move out of the central field. Try to look directly at one; see it move away. Nature's way of keeping 'where we are looking' perfect.

CHAPTER XXIV

HOME TREATMENT

IT is not always possible for patients to go to a competent physician for relief. As the method of treating eye defects presented in this book is new, it may be impossible to find a physician in the neighborhood who understands it; and the patient may not be able to afford the expense of a long journey, or to take the time for treatment away from home. To such persons I wish to say that it is possible for a large number of people to be cured of defective eyesight without the aid, either of a physician or of anyone else. They can cure themselves, and for this purpose it is not necessary that they should understand all that has been written in this book, or in any other book. All that is necessary is to follow a few simple directions.

Place a Snellen test card on the wall at a distance of ten, fourteen, or twenty feet, and devote half a minute a day, or longer, to reading the smallest letters you can see, with each eye separately, covering the other with the palm of the hand in such a way as to avoid touching the eyeball. Keep a record of the progress made, with the dates. The simplest way to do this is by the method used by oculists, who record the vision in the form of a fraction, with the distance at which the letter is read as the numerator and the distance at which it ought to be read as the denominator. The figures above, or to one side of, the lines of letters on the test card indicate the distance at which these letters should be read by persons with normal eyesight. Thus a vision of 10/200 would

(Phoria = Strabismus is not constant, usually occurs when fusion stops. Tropia = Constant strabismus.)

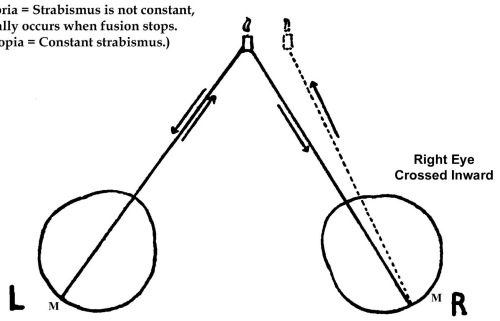


Diagram illustrating the homonymous diplopia of esophoria

In this diagram you will see that the light from the candle falls upon the yellow spot of the left eye, forms an image there and is referred back in the direction from which it came. The rays from the same candle entering the right eye do not fall upon the yellow spot but strike the retina at the inner side of it. Now, then, according to the law of projection, as you can learn it by studying the physiology of vision, the light is referred, not in the direction from which it actually comes, but in the direction from which it appears to come, and thus is seen to the right.

Homonymous and heteronymous diplopia. There are two forms or varieties of diplopia known as *homonymous* and *heteronymous* (or crossed). In order to properly locate the positions of the images in space as seen under various conditions of diplopia one needs bear in mind the laws of projection and the laws of direction. Briefly, the underlying physical and physiological facts are:—(a) The image of an object formed upon the retina above the fovea is projected into space downward; objects situated below the horizontal visual line are recognized by that portion of the retina above the fovea: (b) the image of an object formed upon the retina below the fovea is projected upward: (c) the image of an object placed upon the retina to the nasal side of the fovea is projected toward the temporal side and (d) images formed on the temporal side of the fovea are projected toward the nasal side.

A good Ophthalmology book lists descriptions, pictures of the abnormal images produced by every type of strabismus; in the left eye, the right eye and strabismus in both eyes; Eye, eyes crossed in or wandering out left, right, up, down, diagonally. Learn the images. Use them to cure a strabismus eye by imagining, moving the *image* of the *opposite* strabismus as Dr. Bates teaches on pg. 237. And; imagine, see the correct image seen by a normal eye.

Dr. Bates Cure for a Crossed Left Eye. (See Fig. 252 below on the < left.) Imagine the crossed left eye's abnormal image moves to the right > and merges into the right eye's normal image. This makes the left eye move out to correct position. Next; imagine the left eye's image moves past the right eye's image to the right side of it. (See Fig. 253 below on the right. >) You are now imagining the *opposite strabismus*; a outward wandering left eye and its abnormal image. This also reverses the brain-left and right brain hemisphere's function with the left eye, its eye muscles, retina; from causing a crossed in left eye into causing a outward wandering left eye. With practice the eye will move when the image moves. Next; move the left eye's image back toward the < left and *STOP* at the right eye's normal image; merge the left eye's image into the right eye's image.

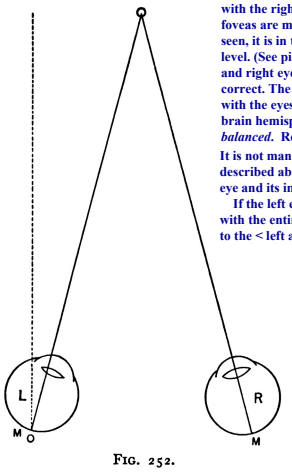


FIG. 252.

The left eye and its image are now in correct position, with the right eye and its image. Left and right eyes' foveas are merged-on the same point. One image is seen, it is in the central field, between the eyes, at eye level. (See picture of Normal Eyes on pg. 226.) The left and right eyes, eye muscles, retinas are functioning correct. The brain, visual cortex are working correct with the eyes, eye muscles, retina. The left and right brain hemispheres are equally activated, integrated, *balanced*. Read Dr. Bates strabismus cure on pg. 237.

It is not mandatory to create the opposite strabismus. When doing the first part of the method described above on the left; if the left eye and its image remain aligned-merged with the right eye and its image (eyes, vision are normal); you can stop there. The strabismus is corrected.

If the left eye and its image revert to the abnormal position, the strabismus returns; continue with the entire method; move the left eye's image to the right > (Fig. 253). Then; move it back to the < left and *STOP* at the right eye's normal image. Repeat all parts of the method if needed.

Practice shifting with the strabismus eye to improve its vision. (Patch the normal eye.) Shift on a object that is in front of the eye's pupil, *where the eye is facing*. Encourage the eye and head (face) to move into correct position = eye and face are directed at the object, the object moves into the central field, between the 2 eyes. (See picture pg. 226.)

When the vision in the strabismus eye is improved; it is easier to imagine and see the eye's abnormal image and move it and the eye into correct position. When the vision is clear; the eye and image stay in correct position. Shift on the image to maintain the clarity, position.

M = Fovea Centralis, Macula Lutea (Yellow Spot)

Homonymous Diplopia (Greek, ὁμώνυμος; from ὁμός, same, and ὄνυμα, name).—Figure 252 shows the right eye (R) fixing upon the object (O), but the left eye is turned inward, so that rays from O fall upon its retina to the nasal side of the fovea (M), and are projected outward to the temporal side; the result is that the left eye sees a false object to the left of the real object. This condition of the objects is spoken of as homonymous diplopia.

Heteronymous Diplopia (Greek, ἕτερος, other; and ὄνυμα, name).—Figure 253 shows the right eye fixing the object (O), but the left eye is turned outward, so that rays from O fall upon the retina to the temporal side of the fovea and are projected

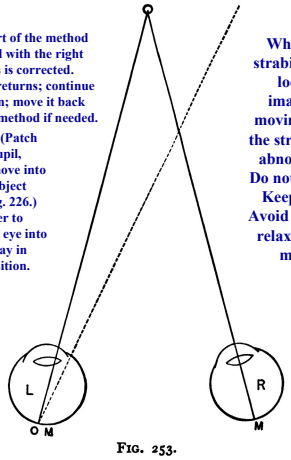


FIG. 253.

When curing a strabismus eye by; looking for, imagining and moving-correcting the strabismus eye's abnormal image; Do not tilt the head. Keep it straight. Avoid stiffness. Stay relaxed and allow movement.

to the nasal side, with the result that the left eye sees a false object to the right of the real object. This condition of the objects is spoken of as heteronymous or crossed diplopia.

The pictures on the next 2 pages show the Maddox Candle Flame Test for Strabismus. The Maddox and other tests, use of a prism are done by Ophthalmologists to determine the location in the visual field a strabismus eye's abnormal image appears. Useful when the person does not see double/cannot locate the strabismus eye's image. And to determine Phoria and Tropia. Phoria; *strabismus occurs only sometimes, when fusion stops; eyes are not looking at an object, or when one eye is covered. Usually when the 2 eyes are fusing=looking at an object, distance; there is no strabismus.* Tropia; *constant strabismus, with and without fusion.*

Read Dr. Bates natural prism use on pg. 237. Eye doctors that *do not* teach Natural Eyesight Improvement-The Bates Method use the Maddox rod and a test prism, or other methods to find the exact location of the strabismus eye's abnormal image and the eye's exact position; to calculate where to place a prism in an eyeglass lens and the type of prism needed to produce a normal image, *when the eyeglasses are worn*. The placement, type of the test prism used with the Maddox is adjusted until the eye covered by the Maddox and the non-Maddox eye see the Maddox line and candle flame correct (pg. 243); A, *the line passes through the flame*.

When the Maddox is in front of the eye it prevents fusion. The eye doctor observes the eye's movement, Maddox line position, and also observes the eye that is not covered with the Maddox; hidden strabismus is revealed if that eye also crosses in, wanders out when the other (strabismus) eye is covered with the Maddox. The fixing (normal) eye can be covered with the Maddox to observe its movement, its Maddox line position and movement of the strabismus (non-Maddox) eye. Doctors use various terms to describe; the type of strabismus, which eye has the strabismus, location of the eye's image the Maddox/prism reveals, the method being used and where to place a prism in an eyeglass lens.

Prisms impair the vision and eye's health. Prisms in eyeglasses are addictive, it is an eyeglass prescription. The eye and vision are dependent on the prism. It does not cure the strabismus. It can increase the strabismus.

mean that the big C, which ought to be read at 200 feet, cannot be seen at a greater distance than ten feet. A vision of 20/10 would mean that the ten line, which the normal eye is not ordinarily expected to read at a greater distance than ten feet, is seen at double that distance. This is a standard commonly attained by persons who have practiced my methods.

Another and even better way to test the sight is to compare the blackness of the letter at the near-point and at the distance, in a dim light and in a good one. With perfect sight, black is not altered by illumination or distance. It appears just as black at the distance as at the near-point, and just as black in a dim light as in a good one. If it does not appear equally black to you under all these conditions, therefore, you may know that your sight is imperfect.

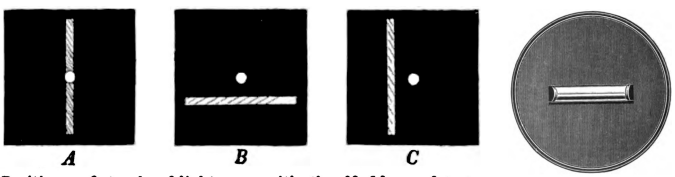
Children under twelve years who have not worn glasses are usually cured of defective eyesight by the above method in three months, six months, or a year. Adults who have never worn glasses are benefited in a very short time—a week or two—and if the trouble is not very bad, may be cured in the course of from three to six months. Children or adults who have worn glasses, however, are more difficult to relieve, and will usually have to practice the method of gaining relaxation described in other chapters; they will also have to devote considerable time to the treatment.

It is absolutely necessary that the glasses be discarded. No half-way measures can be tolerated, if a cure is desired. Do not attempt to wear weaker glasses, and do not wear glasses for emergencies. Persons who are unable to do without glasses for all purposes are not likely to be able to cure themselves.

For Dr. Bates pg. above ^; Dr. Bates cured the vision of many people even when they wore eyeglasses. Dr. Bates required the glasses to be temporary, worn only when absolutely necessary and to be permanently discontinued early as possible. The eyeglass lens strength is reduced continually-prescribed weaker and weaker as the patient practices Dr. Bates Method and improves the vision. Dr. Bates prefers his patients to immediately, completely stop the use of eyeglasses. People that avoid eyeglasses obtain clear vision faster and easier. Glasses restrict, alter natural eye movement 'shifting' and convergence, divergence, accommodation and all eye-vision functions.

Modern Bates Teachers allow reduced, weaker and weaker eyeglass lenses, if needed. Worn temporarily as the vision is improving. The glasses are removed often to allow *completely natural* vision function. Reduced *weaker* prescription strength is usually calculated to 20/40 or 20/50 far vision eyechart line clarity to be legal, safe for driving, work... Close vision reduced glasses are calculated with small letters, and read closer. Glasses are permanently removed when you can function safely without them.

20/20 and stronger clarity glasses prevent and reverse vision improvement. They cause more vision impairment. No eyeglasses is best. If any eye health problem exists; retina, vitreous or cornea condition, glaucoma, cataract... ; STOP wearing ALL types of eyeglasses! Eyeglasses will worsen the condition, can lead to blindness. This includes advanced cases of unclear vision, many years wearing glasses, strong prescriptions; the glasses will cause more damage. Sudden retina, vitreous detachment... can occur. Sunglasses, tinted, colored, UV blocking lenses also impair the vision and eyes' health.



A B C

Positions of streak of light seen with the Maddox rod test: *A*, orthophoria; *B*, hyperphoria; *C*, exophoria or esophoria, according as the rod is held before the right or the left eye.

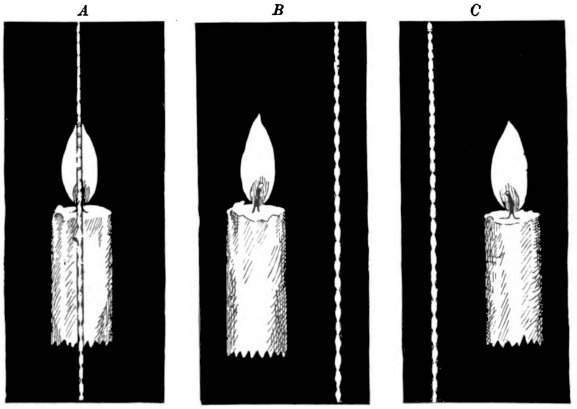
Maddox rod

Most doctors focus on selling prisms, eyeglass prescriptions and eye muscle surgery. Terms can be confusing for people who are not ophthalmologists, optometrists. Dr. Bates states things clearly, tells us where a certain type of strabismus eye's image is. Example; A eye that wanders upward (hyperphoria) projects its image *too low*, down-lower than the normal eye's image. A eye that wanders downward (hypophoria) projects its image *too high*, up-higher than the normal eye's image. If the patient cannot see the strabismus eye's image; Dr. Bates uses special prisms *briefly* to find the abnormal image's exact location. Dr. Bates' prism method is better than the Maddox test because the Maddox shows a line for the covered eye's image. Dr. Bates prism shows the real image; this is better for imagining and seeing it, creating a image in the memory-brain. Doctor Bates uses the prism image to help the patient imagine and see this abnormal image and move it into normal position. As you imagine, see the abnormal image moving into correct position; the eye also moves to correct position. The brain functions correct with the eye. This method corrects the eye's movement, position *naturally* without; eyeglasses, prism prescriptions in eyeglasses and eye muscle surgery. Practice Dr. Bates Method to naturally correct the image, cure strabismus; Pg. 237, 242.

Compare the Maddox test pictures-description to pictures-description of double vision produced by a crossed and wandering eye on pg. 241. Note how the images of the Maddox test compare to the images seen by a person with strabismus that is able to see the double vision, abnormal image produced by the strabismus eye without the Maddox test; Example 1; See the candle flame picture below (pg. 243) B-Fig. 106; Maddox rod is in front of the right eye. The line appears on the right > side of the candle. Latent convergence, esophoria. It *seems* to be the same as picture Fig. 48 on pg. 241 for a right eye. The eye's image is on the right >. The right eye is turned inward. Esotropia. (*Esotropia eye position is the same as esophoria.)* Example 2; See the candle flame picture below C-Fig. 106; Maddox rod is in front of the right eye. The line appears on the < left side of the candle. Latent divergence, exophoria. It *seems* to be the same as picture Fig. 49 on pg. 241 for a right eye. The eye's image is on the < left. The right eye is turned outward. Exotropia. (*Exotropia eye position is the same as exophoria.)* Continued on pg. 244.

FUNCTIONAL TESTING

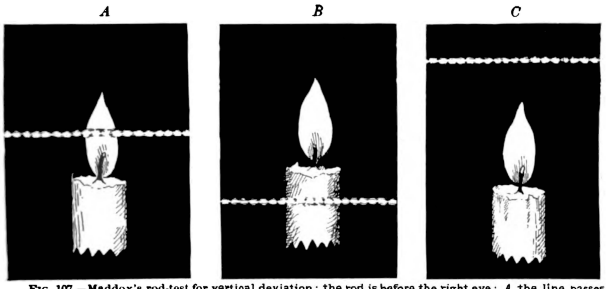
The examination for *horizontal deviation* is thus described: "Seat the patient at 6 m. from a small flame, placed against a dark background, and put the rod horizontally before one eye. If the line passes through the flame, there is orthophoria (equipoise) as far as the horizontal movements of the eyes are concerned. Should the line lie to either side of the flame, as in most people it will, there is either latent convergence or latent divergence; the former, if the line is on the same side as the rod (homonymous diplopia); the latter, if to the other side (crossed diplopia)" (Fig. 106).



A B C

FIG. 106.—Maddox's rod-test for horizontal deviation; the rod is before the right eye: *A*, the line passes through the flame—orthophoria; *B*, the line passes to the right of the flame—latent convergence, or esophoria; *C*, the line passes to the left of the flame—latent divergence, or exophoria.

In order to test the *vertical deviation*, the rod is placed vertically before the eye: a horizontal line of light appears, and the patient is asked if the line passes directly through the flame or if it appears above or below it. The following rule, quoted from Maddox, will suffice to indicate the "hyperphoric" eye: "If the flame is lowest, there is a tendency to upward deviation of the naked eye; if the line is lowest, of the eye before which the rod is placed" [1] (Fig. 107). Dr. Swan M. Burnett substitutes for the Maddox-rod a 6 D. cylinder.



A B C

FIG. 107.—Maddox's rod-test for vertical deviation; the rod is before the right eye: *A*, the line passes through the flame—orthophoria; *B*, the line passes below the flame; the upper image belongs to the left eye—right hyperphoria; *C*, the line passes above the flame; the upper image belongs to the right eye—left hyperphoria. *Clarify:* Hyperphoria = eye wanders up, image is too low. Hypophoria; eye wanders down, image is too high.

The following terminology has been introduced by Dr. George T. Stevens:

The condition in which all adjustments are made by muscles in a state of physiological equilibrium is called *orthophoria*.

Disturbances of equilibrium are known as *heterophoria*, or insufficiencies of the ocular muscles.

The deviating tendencies of heterophoria may exist in as many directions as there are forces to induce irregular tensions. → (*Eye muscles and eyes are normal, balanced.*)

I. GENERIC TERMS.—*Orthophoria:* A tending of the visual lines in parallelism.
Heterophoria: A tending of these lines in some other way.

II. SPECIFIC TERMS.—Heterophoria may be divided into—
1. *Esophoria:* A tending of the visual lines inward;
2. *Exophoria:* A tending of the lines outward;
3. *Hyperphoria* (right or left): A tending of the right or left visual line in a direction above its fellow. (See clarification above; hyper and hypo phoria and its images.)

This term does not imply that the line to which it is referred is too high, but that it is higher than the other, without indicating which may be at fault.

III. COMPOUND TERMS.—Tendencies in oblique directions may be expressed as *hyperesophoria*, a tending upward and inward; or *hyperexophoria*, a tending upward and outward. The designation "right" or "left" must be applied to these terms.

(Doctors use various terms; also study hyperphoria, hypophoria. Eyes drift up, down.)

Children and adults who have worn glasses will have to devote an hour or longer every day to practice with the test card and the balance of their time to practice on other objects. It will be well for such patients to have two test cards, one to be used at the near-point, where it can be seen best, and the other at ten or twenty feet. The patient will find it a great help to shift from the near card to the distant one, as the unconscious memory of the letters seen at the near-point helps to bring out those seen at the distance.

If you cannot obtain a test card, you can make one for yourself by painting black letters of appropriate size on a white card, or on a piece of white paper. The approximate diameter of these letters, reading from the top of the card to the bottom, is: 3½ in., 1¾ in., 1¼ in., ⅞ in., 11/16 in., ½ in., ⅜ in., ¼ in., 3/16 in.

If the patient can secure the aid of some person with normal sight, it will be a great advantage. In fact, persons whose cases are obstinate will find it very difficult, if not impossible, to cure themselves without the aid of a teacher. The teacher, if he is to benefit the patient, must himself be able to derive benefit from the various methods recommended. If his vision is 10/10, he must be able to improve it to 20/10, or more. If he can read fine print at twelve inches, he must become able to read it at six, or at three inches. He must also have sufficient control over his visual memory to relieve and prevent pain. A person who has defective sight, either for the distance or the near-point, and who cannot remember black well enough to relieve and prevent pain, will be unable to be of any material assistance in obstinate cases; and no one will be able to be of any assistance in the application of any method which he himself has not used successfully.

Continued from pg. 243, top-right. Next; Compare the left eye Maddox candle pictures (this pg. 244 on the top^, right >) to the crossed and wandering left eye pictures on pg. 242. Then; compare the picture below, on the right > to the Maddox candle pictures on pg. 243. For the Maddox test; the line image belongs to the eye covered with the Maddox. The candle image belongs to the eye not covered with the Maddox. It *seems* that when the eye covered with the Maddox sees a abnormal image of the line; this indicates *that eye* is the strabismus eye and the line shows where that eye's abnormal image is. *But*; if the eye not covered with the Maddox has strabismus, its image of the candle flame will be abnormal; to the left, right, up, down away from the line... The Maddox pictures do not clearly state which eye has the strabismus, is producing the abnormal image; the eye covered with the Maddox or the other eye. More testing is done to determine which eye has strabismus. Dr. Bates method is much easier;

People that can see the abnormal image the strabismus eye produces do not need the Maddox or prism test. They can see both eyes' candle flame images without covering the eyes with the Maddox rod or prisms. A *normal* eye can see its image move. A object appears to move when the eye (fovea) moves away from it; when the eyes are not looking directly at the object, the object's image moves to the peripheral field of the retina/vision, away from the macula-fovea. See text on pg. 242 for projection of the retina's image. See the Swing Of Opposite Movement. Use both eyes, then one eye at a time; Look at the candle. Then; Look to the < left away from the candle; the candle moves right >.

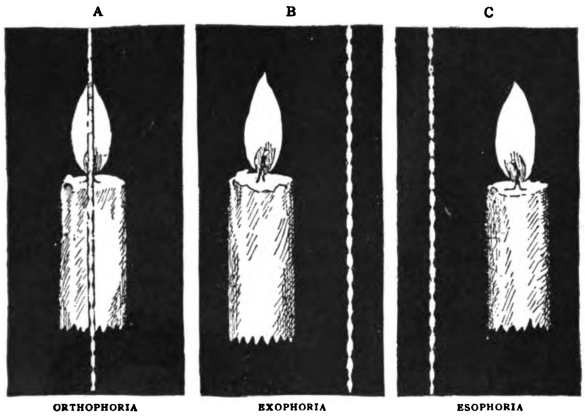
Look to the right > away from the candle; the candle moves < left.

Look above the candle; the candle moves down. Look below the candle; the candle moves up. Look away from the candle diagonally and see it move opposite. Close the eyes and repeat the practice with the memory, imagination. Note the retina, brain's function; when a normal (non-strabismus) eye looks away from a object; the object is in the peripheral field, opposite of the eye's direction. Same for strabismus; the eye's abnormal image (see pictures) is in the peripheral field, *opposite* of the direction the eye is crossed or wandered to. For strabismus; if the double vision, abnormal image is not seen and you cannot imagine the image; ask your eye doctor to help you see it by using Dr. Bates Prism Method.

When using the Maddox or other devices; keep the head straight. Do not tilt the head. (Sometimes a eye doctor will tilt your head to find strabismus that occurs only when the head is in certain positions.) Do not overuse the Maddox, prism... tests. The Maddox interferes with the eyes' fusion. Both devices show images that are not completely natural, can confuse and strain the brain, eye muscles and eyes.

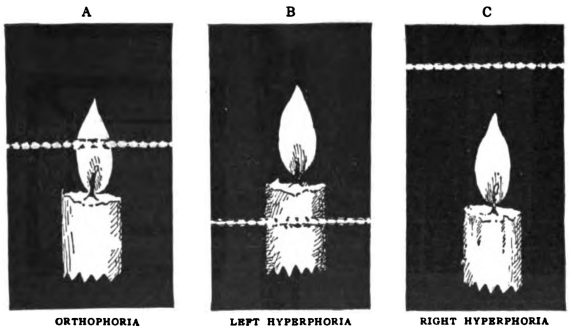
(The Maddox pages contain fine print in order to fit the Maddox and other strabismus pictures, tests, cures into the book. Essential training for teachers and students. This book is free on the website in PDF; the fine print can be viewed and printed in normal size and added to this paperback book.)

In accordance with the principal directions of the main deviation, heterophoria has several general subdivisions,—*esophoria*, in which the main tendency is directly inwards; *exophoria*, in which the main tendency is directly outwards; *hyperphoria*, in which the main tendency is upwards, and *hypophoria*, in which the main tendency is downwards.



MADDOX ROD TEST FOR LATERAL DEVIATION WITH ROD BEFORE THE LEFT EYE.

A, the line passes through the flame—Orthophoria; *B*, the line passes to the right of the flame—Latent Divergence or Exophoria; *C*, the line passes to the left of the flame—Latent Convergence or Esophoria.



MADDOX ROD TEST FOR HORIZONTAL DEVIATION WITH ROD BEFORE THE LEFT EYE.

A, the line passes through the flame—Orthophoria; *B*, the line passes below the flame—Left Hyperphoria; *C*, the line passes above the flame—Right Hyperphoria.

(Confusing terms. Picture ^ should specify; the left eye wanders up (hyperphoria) or down (hypophoria).

In Fig. 310, the right eye is turned in, and consequently binocular diplopia results. The patient sees a true image

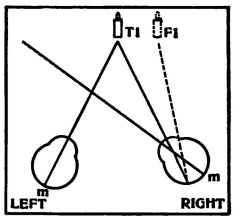


FIG. 310.—Deviation of the Right Eye Inward. Homonymous Diplopia. *TI*, True Image. *FI*, False Image. *m*, Macula.

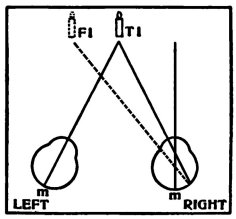


FIG. 311.—Deviation of the Right Eye Outward. Crossed Diplopia. *TI*, True Image. *FI*, False Image. *m*, Macula.

with the left eye, the image of the candle forming at the macula and being referred to its proper place, *TI*. In the right eye, on account of the deviation inward, the image is thrown upon the retina to the left of the macula and consequently is projected to the right, at *FI*. The image of the right eye being to the right of the image of the left eye, the case is one of *homonymous double images*.

In Fig. 311, the right eye turns out and double images result. The image of the candle lies on the macula in the left eye, and this eye refers the image to its proper place,; a true image is seen at *TI*. In the right eye, because of its outward deviation, the image falls to the right of the macula and is consequently projected to the left, at *FI*. The images having crossed in their relative positions, that of the right eye being seen to the left of the image of the left eye, the case is one of *crossed diplopia*.

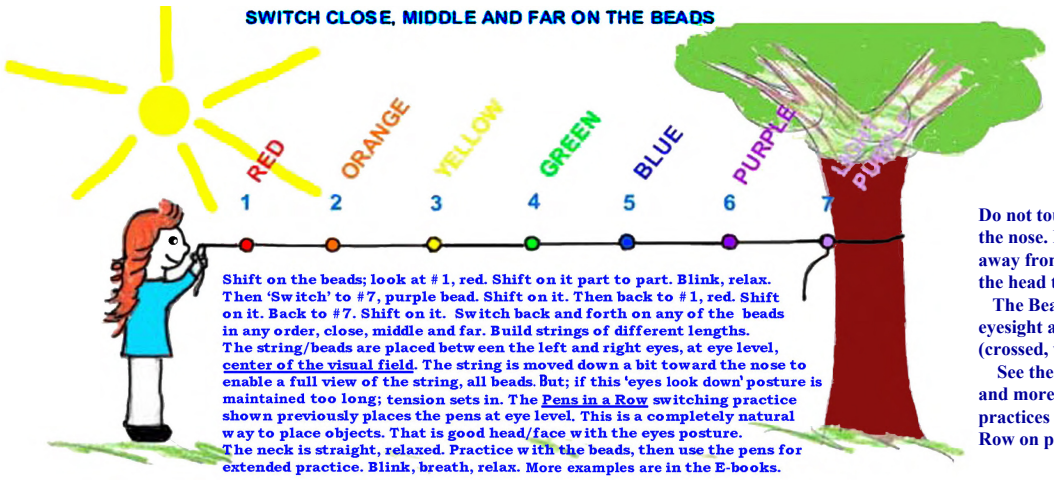
Parents who wish to preserve and improve the eyesight of their children should encourage them to read the Snellen test card every day. There should, in fact, be a Snellen test card in every family; for when properly used it always prevents myopia and other errors of refraction, always improves the vision, even when this is already normal, and always benefits functional nervous troubles. Parents should improve their own eyesight to normal, so that their children may not imitate wrong methods of using the eyes and will not be subject to the influence of an atmosphere of strain. They should also learn the principles of central fixation sufficiently well to relieve and prevent pain, in order that they may teach their children to do the same. This practice not only makes it possible to avoid suffering, but is a great benefit to the general health.

Bead String
Head is straight, bead string straight, aligned between the eyes at nose level or up toward eye level. Look at, 'shift and centralize' upon one bead at a time. Trace around the beads. Blink and relax.

Bead String Directions for Chapter XXII

Bead String is at nose level. The eyes look down at the beads. It is best to place the string-beads up higher toward eye level, and still provide a good view of the string and beads. Looking down at nose level can tense the eye muscles if done excessively because; the face is forward while the eyes look down to the string at nose level. The head/face, eyes should be in the same direction. But, when using the bead string; the beads and X are easier to see with the string-beads a bit below eye level or at nose level. The head is straight, not tilted. The bead string is straight. Do not angle it up, down, left, right...

Place the Bead String in the central field, between the eyes. Test the eyes/vision; Cover one eye at a time to see how the string appears to each eye. If the string, beads appear blurry, light, ghostly or do not appear; this means the eye that sees the incorrect image needs vision improvement. Improve the vision and convergence, divergence... in that eye with shifting and switching close, middle and far on the bead string and other objects in a straight line. First practice with both eyes together. Then; with the best vision eye. Then; with the eye that needs vision improvement. End the practice with both eyes together. Imagine the beads, string are perfectly clear, solid and in correct placement. Do this using the imagination with the eyes open and with the eyes closed.
Practice at a variety of distances to get the vision clear at all distances. See pictures below and page 415.



Shift on the beads; look at # 1, red. Shift on it part to part. Blink, relax. Then 'Switch' to #7, purple bead. Shift on it. Then back to # 1, red. Shift on it. Back to #7. Shift on it. Switch back and forth on any of the beads in any order, close, middle and far. Build strings of different lengths. The string/beads are placed between the left and right eyes, at eye level, center of the visual field. The string is moved down a bit toward the nose to enable a full view of the string, all beads. But; if this 'eyes look down' posture is maintained too long; tension sets in. The Pens in a Row switching practice shown previously places the pens at eye level. This is a completely natural way to place objects. That is good head/face with the eyes posture. The neck is straight, relaxed. Practice with the beads, then use the pens for extended practice. Blink, breath, relax. More examples are in the E-books.

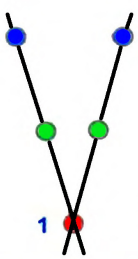
Using Both Eyes; When looking at a bead at about 21 to 23 feet; all beads beyond it farther into the distance (25 to 200 to 500+ ft.) do not appear double. The 21-23 ft. distance varies for some people.

Do not touch the end of the string to the nose. Move it out a few inches, away from the end of the nose to allow the head to move freely, relax.

The Bead String improves the eyesight and corrects strabismus (crossed, wandering eyes, amblyopia).

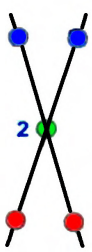
See the Phoria Swings on pg. 415 and more Switching Close and Far practices on pg. 404 to 414. Pens in a Row on pg. 147 and 7 Pens on pg. 408.

Correct Images Seen For the Beads and String.



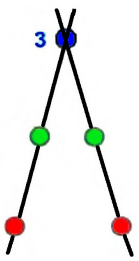
The X crosses on the bead the eyes are looking at. Move from bead to bead and see the X move along the string over each bead.

Beads the eyes are not looking at appear double.



Practice with; Both eyes together, then; One eye at a time. Keep the beads in the central field, between the eyes when using both eyes, and when using one eye.

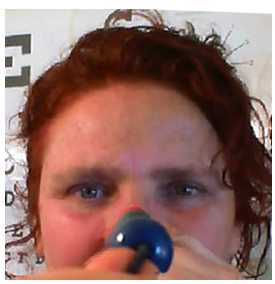
There are no double images of the beads, string when using one eye.



LOOKING AT BEAD 1
RED - CLOSE

LOOKING AT BEAD 2
GREEN - MIDDLE

LOOKING AT BEAD 3
BLUE - FAR



Bead String up ^
higher toward eye level.

The Bead String is placed between the eyes, at nose level or up toward eye level. Look at, *shift and centralize* on one bead at a time. Trace around, on the edge of the beads clockwise, counter-clockwise. Blink, relax. Switch back and forth on the beads; Close red bead to the green or blue or purple bead. Yellow... Move back and forth on any beads, in any order.

The Bead String and Pens in a Row can correct Strabismus; crossed, wandering eyes. Additional practice with a moving light or colorful picture moved from the direction the eye is abnormally turned, (the eye looking at it, moving with it) to, onto the bead string in the central field of vision helps activate correct eye movement. See complete directions and eye patch use in this book and the e-books. Do not overuse one eye. The other eye must also be activated to keep a balance.

SWITCH BACK AND FORTH ON OBJECTS AT CLOSE, MIDDLE AND FAR DISTANCES WITH BOTH EYES TOGETHER, THEN ONE EYE AT A TIME, THEN BOTH EYES TOGETHER AGAIN TO IMPROVE CONVERGENCE, ACCOMMODATION FOR CLEAR CLOSE VISION AND UNCONVERGENCE, UNACCOMMODATION FOR CLEAR DISTANT (FAR) VISION.

CHAPTER XXV

CORRESPONDENCE TREATMENT

CORRESPONDENCE treatment is usually regarded as quackery, and it would be manifestly impossible to treat many diseases in this way. Pneumonia and typhoid, for instance, could not possibly be treated by correspondence, even if the physician had a sure cure for these conditions and the mails were not too slow for the purpose. In the case of most diseases, in fact, there are serious objections to correspondence treatment.

But myopia, hypermetropia and astigmatism are functional conditions, not organic, as the text-books teach and as I believed myself until I learned better. Their treatment by correspondence, therefore, has not the drawbacks that exist in the case of most physical derangements. One cannot, it is true, fit glasses by correspondence as well as when the patient is in the office, but even this can be done, as the following case illustrates.

An old colored woman in the wilds of Honduras, far removed from any physician or optician, was unable to read her Bible, and her son, a waiter in New York, asked me if I could not do something for her. The suggestion gave me a distinct shock which I will remember as long as I live. I had never dreamed of the possibility of prescribing glasses for anyone I had not seen, and I had, besides, some very disquieting recollections of colored women whom I had tried to fit with glasses at my clinic.

To test the eyes, cornea, visual field for astigmatism and to remove the astigmatism; Place the circles in the central field. Shift and trace on the circles with; both eyes together, then with one eye at a time. End with both eyes together again. Shift on a circle from one part to another part, to another part... Shift from circle to circle. Trace on/around the circles counter-clockwise and clockwise. Shift, trace on any part of the black circles, the white circles, and on the edge of the black where it meets the white.

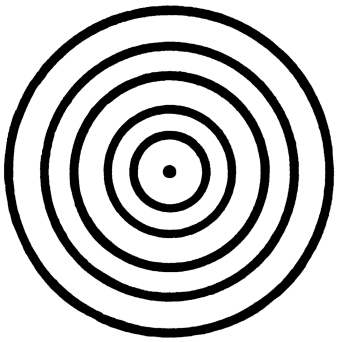
Avoid tension. Let the eyes/vision move freely, easy, relaxed. Look at the white for a while to soothe the mind, eyes and stimulate the retina's cones.

The head and eyes move together; face the part of the circle you move to 'are shifting, tracing on'.

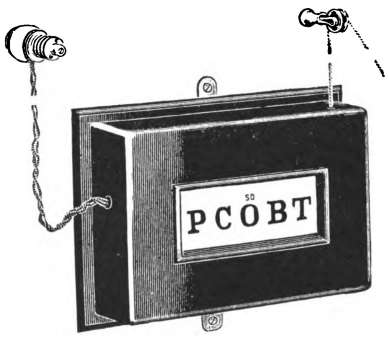
If a circle appears distorted, oval, double, blurry; Shift on it and imagine it is perfectly round and clear. Do this with the eyes open, closed, then open again.

Print the Placido's Disc in different sizes; large, small and tiny. Practice shifting, tracing on the circles at far, middle, close distances and 1 inch to 3 feet from the eyes reading distances. *Blink, Breathe, Relax.*

Page 167 and 400 contain pictures, directions for tracing with and without the Imaginary Nosefeather.

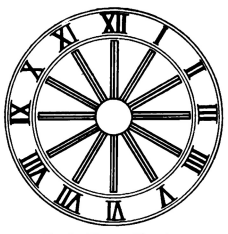


Modified Placido's disk

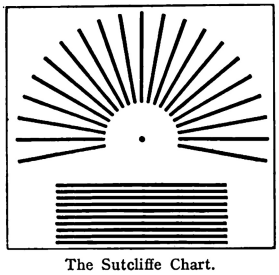


Hardy's Illuminated Test Cabinet.

Placido's Disc is used for ascertaining the presence of astigmatism and for diagnosing other anomalies of corneal curvature. It is a round metal plate about 10 inches in diameter, on which are painted a number of concentric black and white rings ½ inch in breadth, arranged alternately. A newer pattern in inlaid celluloid is much lighter than the metal disc. There is a hole in the centre through which the reflection of the disc on the patient's cornea is observed. On a normal cornea round rings are reflected, but the rings are more or less distorted in abnormal conditions. The patient sits with his back to the window or source of light.



Clock Face Chart.

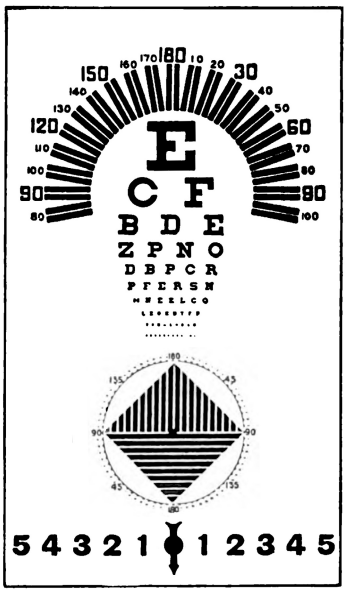


The Sutcliffe Chart.

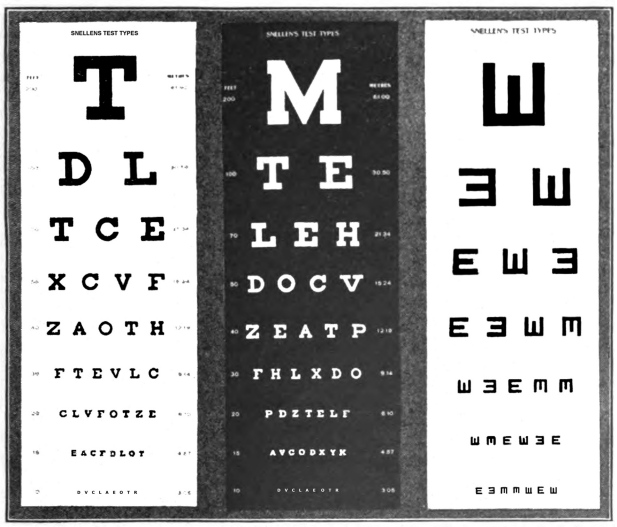
Placido's Disc.

If I had so much difficulty in prescribing the proper glasses under favorable conditions, how could I be expected to fit a patient whom I could not even see? The waiter was deferentially persistent, however. He had more faith in my genius than I had, and as his mother was nearing the end of her life, he was very anxious to gratify her last wishes. So, like the unjust judge of the parable, I yielded at last to his importunity, and wrote a prescription for convex 3.00 D. S. The young man ordered the glasses and mailed them to his mother, and by return mail came a very grateful letter stating that they were perfectly satisfactory.

A little later the patient wrote that she couldn't see objects at the distance that were perfectly plain to other people, and asked if some glasses couldn't be sent that would make her see at the distance as well as she did at the near-point. This seemed a more difficult proposition than the first one; but again the son was persistent, and I myself could not get the old lady out of my mind. So again I decided to do what I could. The waiter had told me that his mother had read her Bible long after the age of forty. Therefore I knew she could not have much hypermetropia, and was probably slightly myopic. I knew also that she could not have much astigmatism, for in that case her sight would always have been noticeably imperfect. Accordingly I told her son to ask her to measure very accurately the distance between her eyes and the point at which she could read her Bible best with her glasses, and to send me the figures. In due time I received, not figures, but a piece of string about a quarter of an inch in diameter and exactly ten inches long. If the patient's vision had been normal for the distance, I knew that she would have been



The Orthops Chart.



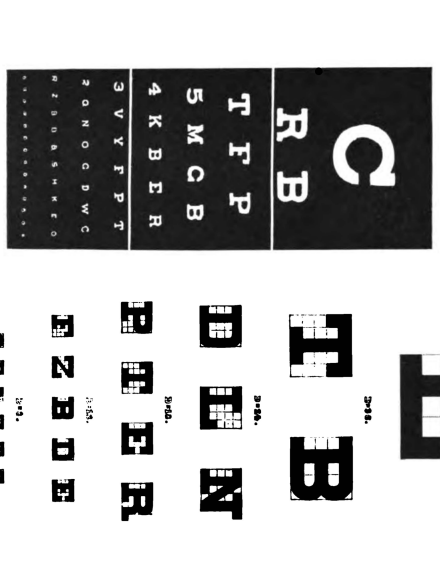
Snellen's Test Types. Usual Style of Chart. **Snellen's Test Types. White Letters** **Test Types for Illiterates.**

able to read her Bible best with her glasses at thirteen inches. The string showed that at ten inches she had a refraction of four diopters. Subtracting from this the three diopters of her reading glasses, I got one diopter of myopia. I accordingly wrote a prescription for concave 1.00 D. S., and the glasses were ordered and mailed to Honduras. The acknowledgment was even more grateful than in the case of the first pair. The patient said that for the first time in her life she was able to read signs and see other objects at a distance as well as other people did, and that the whole world looked entirely different to her.

Would anyone venture to say that it was unethical for me to try to help this patient? Would it have been better to leave her in her isolation without even the consolation of Bible reading? I do not think so. What I did for her required only an ordinary knowledge of physiological optics, and if I had failed, I could not have done her much harm.

In the case of the treatment of imperfect sight without glasses there can be even less objection to the correspondence method. It is true that in most cases progress is more rapid and the results more certain when the patient can be seen personally; but often this is impossible, and I see no reason why patients who cannot have the benefit of personal treatment should be denied such aid as can be given them by correspondence. I have been treating patients in this way for years, and often with extraordinary success.

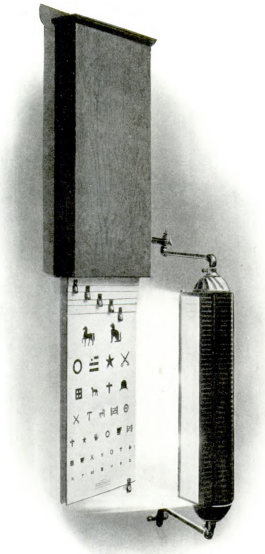
Some years ago an English gentleman wrote to me that his glasses were very unsatisfactory. They not only did not give him good sight, but they increased, instead of lessening, his discomfort. He asked if I could help



Test Chart with White Letters on Black Background.

Moorfields Test Types.

The "Alternating" test card of Meyrowitz consists of a heavy cardboard chart mounted in an oak frame. The lines below the 70 feet appear through openings in the front, and either of the two sets may be made to appear by means of a pull on the lifting device through the cord and handle. See next page.

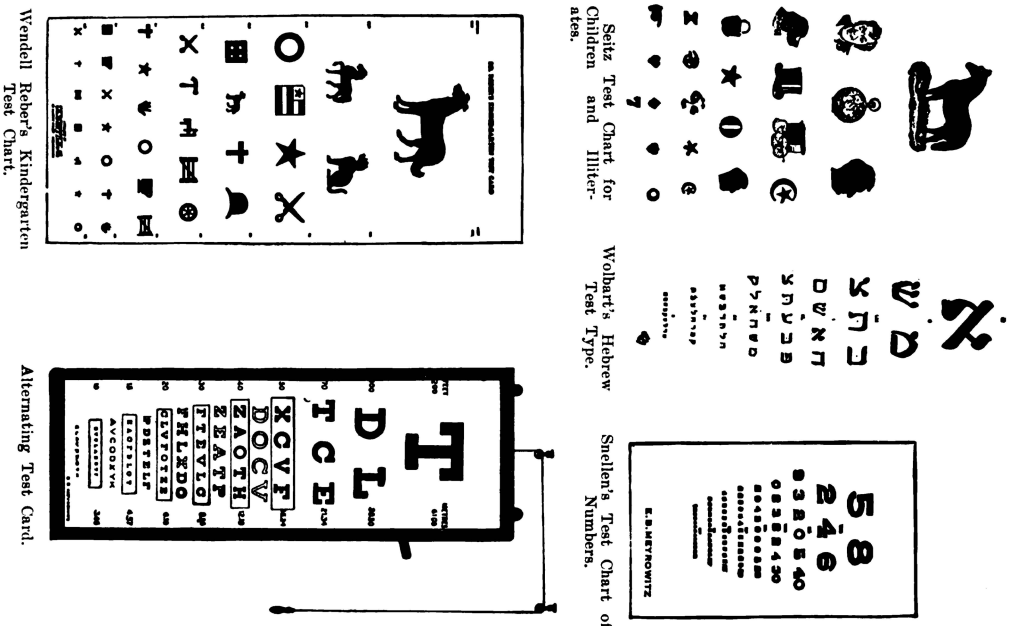


Test Card Cabinet with Reflector as Used in Wills' Eye Hospital.

him, and since relaxation always relieves discomfort and improves the vision, I did not believe that I was doing him an injury in telling him how to rest his eyes. He followed my directions with such good results that in a short time he obtained perfect sight for both the distance and the near-point without glasses, and was completely relieved of his pain. Five years later he wrote me that he had qualified as a sharpshooter in the army. Did I do wrong in treating him by correspondence? I do not think so.

After the United States entered the European war, an officer wrote to me from the deserts of Arizona that the use of his eyes at the near-point caused him great discomfort, which glasses did not relieve, and that the strain had produced granulation of the lids. As it was impossible for him to come to New York, I undertook to treat him by correspondence. He improved very rapidly. The inflammation of the lids was relieved almost immediately, and in about four months he wrote me that he had read one of my own reprints—by no means a short one—in a dim light, with no bad after effects; that the glare of the Arizona sun, with the Government thermometer registering 114, did not annoy him; and that he could read the ten line on the test card at fifteen feet almost perfectly, while even at twenty feet he was able to make out most of the letters.

A third case was that of a forester in the employ of the U. S. Government. He had myopic astigmatism, and suffered extreme discomfort, which was not relieved either by glasses or by long summers in the mountains, where he used his eyes but little for close work. He was unable to come to New York for treatment, and although I told him that correspondence treat-



Wendell Reber's Kindergarten Test Chart.

Seitz Test Chart for Children and Illiterates.

Wolbart's Hebrew Test Type.

Snellen's Test Chart of Numbers.

Alternating Test Card.

ment was somewhat uncertain, he said he was willing to risk it. It took three days for his letters to reach me and another three for my reply to reach him, and as letters were not always written promptly on either side, he often did not hear from me more than once in three weeks. Progress under these conditions was necessarily slow; but his discomfort was relieved very quickly, and in about ten months his sight had improved from 20/50 to 20/20.

In almost every case the treatment of patients coming from a distance is continued by correspondence after they return to their homes; and although they do not get on so well as when they are coming to the office, they usually continue to make progress until they are cured.

At the same time it is often very difficult to make patients understand what they should do when one has to communicate with them entirely by writing, and probably all would get on better if they could have some personal treatment. At the present time the number of doctors in different parts of the United States who understand the treatment of imperfect sight without glasses is altogether too few, and my efforts to interest them in the matter have not been very successful.

CHAPTER XXVI

THE PREVENTION OF MYOPIA IN SCHOOLS: METHODS THAT FAILED

NO phase of ophthalmology, not even the problem of accommodation, has been the subject of so much investigation and discussion as the cause and prevention of myopia. Since hypermetropia was supposed to be due to a congenital deformation of the eyeball, and astigmatism, until recently, was also supposed to be congenital in most cases, these conditions were not thought to call for any explanation, nor to admit of any prevention; but myopia appeared to be acquired. It therefore presented a problem of immense practical importance to which many eminent men devoted years of labor.

Voluminous statistics were collected regarding its occurrence, and are still being collected. The subject has produced libraries of literature. But very little light is to be gained from the perusal of this material, and for the most part it leaves the reader with an impression of hopeless confusion. It is impossible even to arrive at any conclusion as to the prevalence of the complaint; for not only has there been no uniformity of standards and methods, but none of the investigators has taken into account the fact that the refraction of the eye is not a constant condition, but one which continually varies. There is no doubt, however, that most children, when they begin school, are free from this defect, and that both the number of cases and the degree of the myopia steadily increase as the educational process progresses. Professor Hermann Cohn, of Breslau,

whose report of his study of the eyes of upwards of 10,000 children first called general attention to this subject, found scarcely one per cent of myopia in the village schools, twenty to forty per cent in the "Realschulen," thirty to thirty-five in the gymnasia, and fifty-three to sixty-four in the professional schools. His investigations were repeated in many cities of Europe and America, and his observations, with some difference in percentages, everywhere confirmed.

These conditions were unanimously attributed to the excessive use of the eyes for near work, though, according to the theory that the lens is the agent of accommodation, it was a little difficult to see just why near work should have this effect. On the supposition that accommodation was effected by an elongation of the eyeball, it would have been easy to understand why an excessive amount of accommodation should produce a permanent elongation. But why should an abnormal demand on the accommodative power of the lens produce a change, not in the shape of that body, but in that of the eyeball? Numerous answers to this question have been proposed, but no one has yet succeeded in finding a satisfactory one.[1] In the case of children it has been assumed by many authorities that, since the coats of the eye are softer in youth than in later years, they are unable to withstand a supposed intraocular tension produced by near work. When other errors of refraction, such as hypermetropia and astigmatism, believed to be congenital, were present, it has been supposed that the accommodative struggle for distinct vision produced irritation and strain which encouraged the production of short-

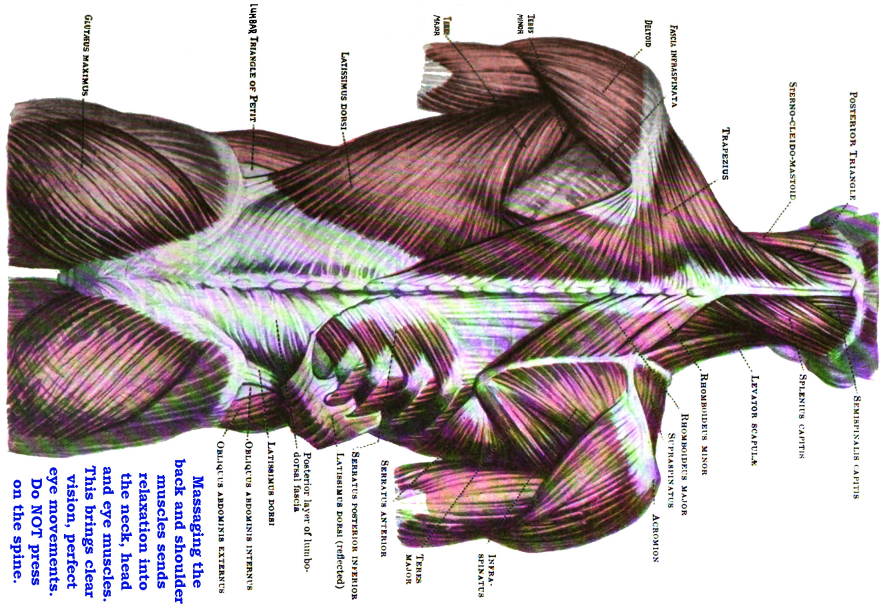
[1] A satisfactory explanation of the mechanism by which near work produces myopia has not yet been given.—Tscherning: Physiologic Optics, p. 86.
It is not yet determined how near work changes the longitudinal structure of the eye.—Eversbusch: The Diseases of Children, vol. vi, p. 291.

sight. When the condition developed in adults, the explanations had to be modified to fit the case, and the fact that a considerable number of cases were observed among peasants and others who did not use their eyes for near work led some authorities to divide the anomaly into two classes, one caused by near work and one unrelated to it, the latter being conveniently attributed to hereditary tendencies.

As it was impossible to abandon the educational system, attempts were made to minimize the supposed evil effects of the reading, writing and other near work which it demanded. Careful and detailed rules were laid down by various authorities as to the sizes of type to be used in schoolbooks, the length of the lines, their distance apart, the distance at which the book should be held, the amount and arrangement of the light, the construction of the desks, the length of time the eyes might be used without a change of focus, etc. Face-rests were even devised to hold the eyes at the prescribed distance from the desk and to prevent stooping, which was supposed to cause congestion of the eyeball and thus to encourage elongation. The Germans, with characteristic thoroughness, actually used these instruments of torture, Cohn never allowing his own children to write without one, "even when sitting at the best possible desk."[1]

The results of these preventive measures were disappointing. Some observers reported a slight decrease in the percentage of myopia in schools in which the prescribed reforms had been made, but on the whole, as Risley has observed in his discussion of the subject in Norris and Oliver's "System of Diseases of the Eye," "the injurious results of the educational process were not notably arrested."

[1] The Hygiene of the Eye in Schools, p. 127.



THE SUPERFICIAL MUSCLES OF THE BACK.

SUPERFICIAL MUSCLES OF THE BACK, AND VENTERO-SCAPULAR MUSCLES.

"It is a significant, though discouraging, fact," he continues, "that the increase, as found by Cohn, both in the percentage and in the degree of myopia, had taken place in those schools where he had especially exerted himself to secure the introduction of hygienic reforms; and the

Fig. 56. Face-Rest Designed by Kallmann, a German Optician

Cohn never allowed his children to write without it, even when sitting at the best possible desk.

same is true of the observations of Just, who had examined the eyes of twelve hundred and twenty-nine of the pupils of the two high schools of Zittau, in both of which the hygienic conditions were all that could be desired. He found, nevertheless, that the excellent arrangements had not in any degree lessened the percentage of increase in myopia."[1]

[1] School Hygiene, System of Diseases of the Eye, vol. ii, p. 361.

Any device, posture that limits free movement of the body, head, neck, eyes and prevents relaxed normal posture causes; tension in the body, back, arms, shoulders, chest, neck, head and eye muscles, limits eye shifting, prevents perfect central-fixation, natural head movement in synchronization with the eyes and other natural eye-vision functions. Circulation to the head, brain, eyes, ears is reduced. Full relaxed breathing is prevented. Headaches occur. All these abnormal conditions cause unclear eyesight. Headaches are a main cause of unclear eyesight and other visual disturbances. Incorrect and tense body, shoulder, neck, head/face and eye posture, restricted movement causes astigmatism, blurry eyesight and strabismus, disrupts alignment of the eyes' foveas (convergence, divergence, shifting, centralizing). Notice violin musicians' constant tilted, twisted head, neck, shoulders and incorrect eye position. This causes tense-unbalanced eye muscles, astigmatism, unclear eyesight, a tense, soar neck, shoulders and headaches. If the violin player decides to wear eyeglasses; the eye doctor will often add bifocal and astigmatism prescriptions in the eyeglass lens. All of the prescriptions increase the eye-vision impairment, the body, neck... and eye muscle tension and the incorrect body, shoulders, neck, head and eye postures. Stronger glasses are prescribed which continues the cycle of increased tension, incorrect posture, eye-vision impairment.

Most eye exam machines limit body, head and eye movement and cause imperfect posture. This temporarily lowers the eyesight and can cause astigmatism during the exam. Result; a unnecessary or stronger and incorrect eyeglass prescription.

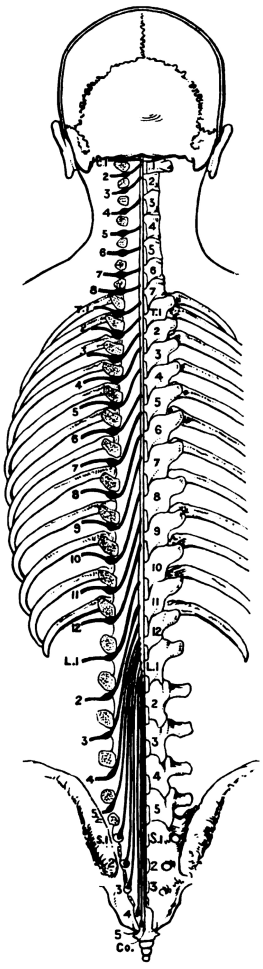
Further study of the subject has only added to its difficulty, while at the same time it has tended to relieve the schools of much of the responsibility formerly attributed to them for the production of myopia. As the "American Encyclopedia of Ophthalmology" points out, "the theory that myopia is due to close work aggravated by town life and badly lighted rooms is gradually giving ground before statistics."[1]

In an investigation in London, for instance, in which the schools were carefully selected to reveal any differences that might arise from the various influences, hygienic, social and racial, to which the children were subjected, the proportion of myopia in the best lighted building of the group was actually found to be higher than in the one where the lighting conditions were worst. although the higher degrees of myopia were more numerous in the latter than in the former. It has also been found that there is just as much myopia in schools where little near work is done as in those in which the demand upon the accommodative power of the eye is greater.[2] It is only a minority of children, moreover, that become myopic; yet all are subject to practically the same influences, and even in the same child one eye may become myopic while the other remains normal. On the theory that shortsight results from any external influence to which the eye is exposed, it is impossible to account for the fact that under the same conditions of life the eyes of different individuals and the two eyes of the same individual behave differently.

Owing to the difficulty of reconciling these facts on the basis of the earlier theories, there is now a growing

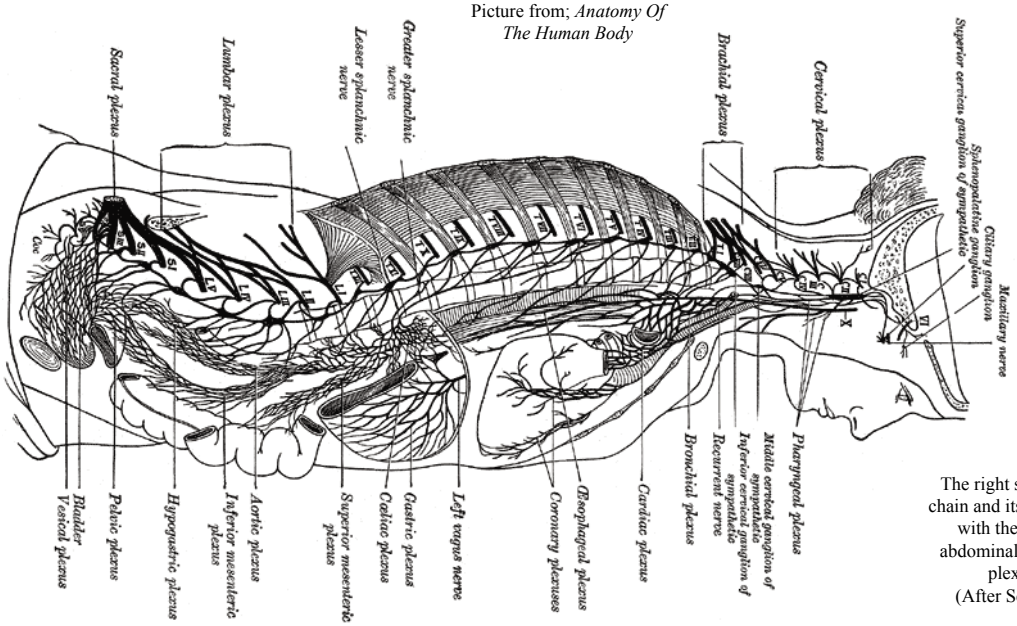
[1] American Encyclopedia and Dictionary of Ophthalmology, edited by Wood, 1913-1919, vol. xi, p. 8271.

[2] Lawson: Brit. Med. Jour., June 18, 1898.



DIAGRAMMATIC REPRESENTATION OF THE ORIGIN OF THE SPINAL NERVES, showing the position of their roots and ganglia respectively in relation to the vertebral column. The nerves are shown as thick black lines on the left side.

Picture from; *Anatomy Of The Human Body*



The right sympathetic chain and its connections with the thoracic, abdominal, and pelvic plexuses. (After Schwalbe.)

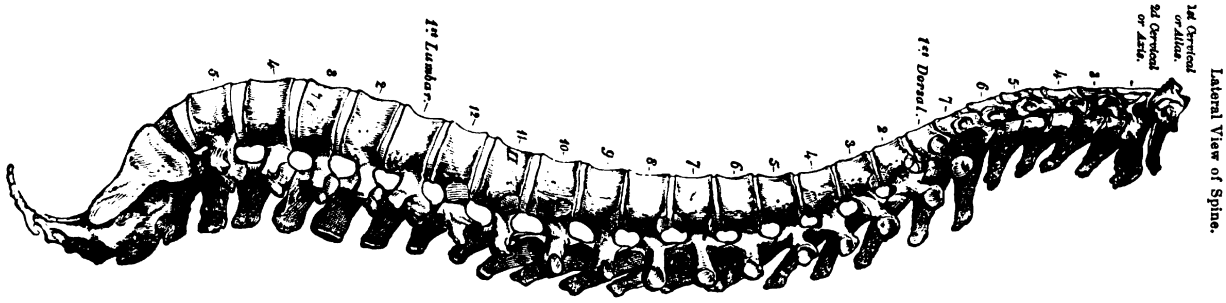
disposition to attribute myopia to hereditary tendencies;[1] but no satisfactory evidence on this point has been brought forward, and the fact that primitive peoples who have always had good eyesight become myopic just as quickly as any others when subjected to the conditions of civilized life, like the Indian pupils at Carlisle,[2] seems to be conclusive evidence against it.

In spite of the repeated failure of preventive measures based upon the limitation of near work and the regulation of lighting, desks, types, etc., the use of the eyes at the near-point under unfavorable conditions is still admitted by most exponents of the heredity theory as probably, if not certainly, a secondary cause of myopia. Sidler-Huguenin, however, whose startling conclusions as to the hopelessness of controlling shortsight were quoted earlier, has observed so little benefit from such precautions that he believes a myope may become an engineer just as well as a farmer, or a forester; and as a result of his experiences with anisometropes, persons with an inequality of refraction between the two organs of vision, he even suggests that the use of myopic eyes may possibly be more favorable to their well-being than their non-use. In 150 cases in which, owing to this inequality and other conditions, the subjects practically used but one eye, the weaker organ, he reports, became gradually more and more myopic, sometimes excessively so, in open defiance of all the accepted theories relating to the matter.

The prevalence of myopia, the unsatisfactoriness of

[1] It seems to have been amply demonstrated, by the studies of Motais, Steiger, Miss Barrington, and Karl Pearson, that errors of refraction are inherited. And while the use of the eyes for near work is probably a secondary cause, determining largely the development of the defect, it is not the primary cause.—Cyclopedia of Education, edited by Monroe, 1911-1913, vol. iv, p. 361.

[2] Fox (quoted by Risley): System of Diseases of the Eye, vol. ii, p. 357.

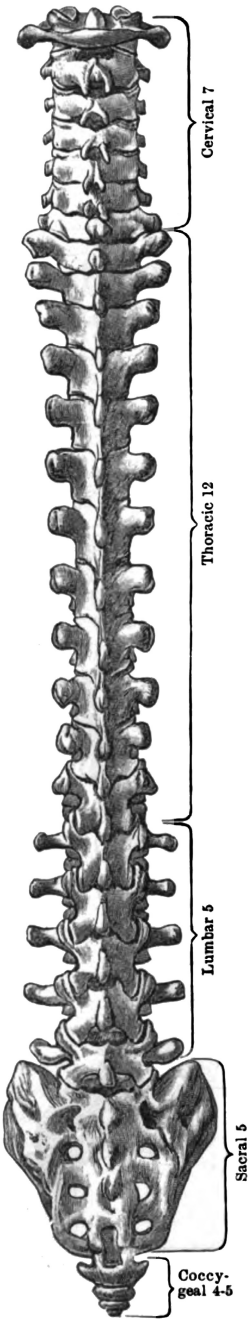


Lateral View of Spine.

Picture is from Gray's;
Anatomy Of The Human Body

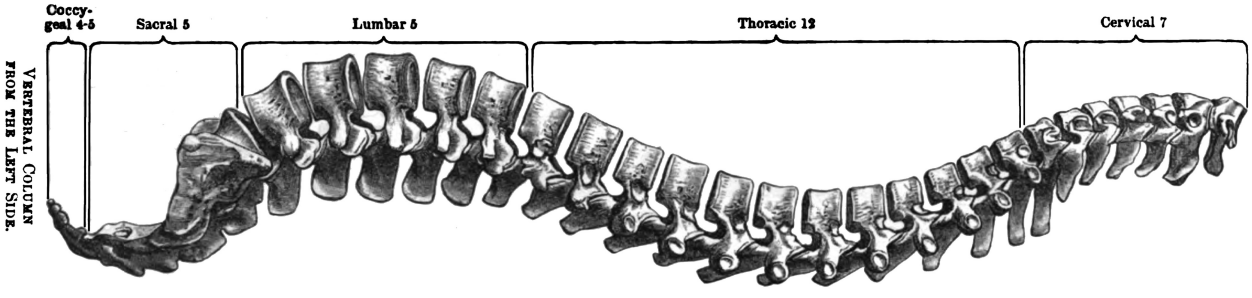
all explanations of its origin, and the futility of all methods of prevention, have led some writers of repute to the conclusion that the elongated eyeball is a natural physiological adaptation to the needs of civilization. Against this view two unanswerable arguments can be brought. One is that the myopic eye does not see so well even at the near-point as the normal eye, and the other that the defect tends to progression with very serious results, often ending in blindness. If Nature has attempted to adapt the eye to civilized conditions by an elongation of the globe, she has done it in a very clumsy manner. It is true that many authorities assume the existence of two kinds of myopia, one physiological, or at least harmless, and the other pathological; but since it is impossible to say with certainty whether a given case is going to progress or not, this distinction, even if it were correct, would be more important theoretically than practically.

Into such a slough of despair and contradiction have the misdirected labors of a hundred years led us! But in the light of truth the problem turns out to be a very simple one. In view of the facts given in Chapters V and IX, it is easy to understand why all previous attempts to prevent myopia have failed. All these attempts have aimed at lessening the strain of near work upon the eye, leaving the strain to see distant objects unaffected, and totally ignoring the mental strain which underlies the optical one. There are many differences between the conditions to which the children of primitive man were subjected, and those under which the offspring of civilized races spend their developing years, besides the mere fact that the latter learn things out of books and write things on paper, and the former did not. In the



VERTEBRAL COLUMN AS SEEN FROM BEHIND.

Pictures of spine vertebrae are from;
Cunningham's Text-Book Of Anatomy.



VERTEBRAL COLUMN FROM THE LEFT SIDE.

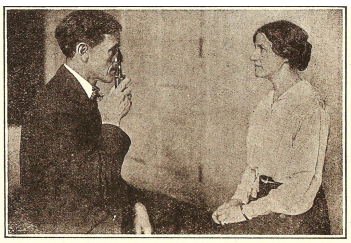
process of education, civilized children are shut up for hours every day within four walls, in the charge of teachers who are too often nervous and irritable. They are even compelled to remain for long periods in the same position. The things they are required to learn may be presented in such a way as to be excessively uninteresting; and they are under a continual compulsion to think of the gaining of marks and prizes rather than the acquisition of knowledge for its own sake. Some children endure these unnatural conditions better than others. Many cannot stand the strain, and thus the schools become the hotbed, not only of myopia, but of all other errors of refraction.

TEST YOUR OWN EYES

IT does not require any special training, or even any expensive apparatus, to test the vision. With the aid of a Snellen test card any one can test his own sight, and with the assistance of a second person a retinoscope can be used.

A test card, which is sometimes difficult to buy, accompanies this course. You can also make one for yourself by painting black letters of an appropriate size on a white background.

A retinoscope can be even more easily made than a test card, all the material required for the purpose being a small piece of looking-glass about one inch wide and three inches long. A small mirror that will answer the purpose can be bought at the five-and-ten-cent stores, and a glass-cutter, which is as easy to use as a pair of scissors, can also be bought at these stores. For a few cents, too, a glazier, or painter, will cut a piece of mirror glass of the right size. About three-quarters of an inch from the top of this mirror, and midway between the sides, scrape off the silver backing on an area a little larger than

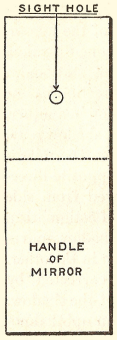


Testing the eye with the retinoscope.

the lead of a lead-pencil. If it is a little larger, or a little smaller than this, it will not matter. By means of the mirror the observer reflects light from a lamp, or other source of light, into the eye which is being examined, and the opening serves as a sight-hole through which he looks into the pupil. The room must be darkened, and the light placed a little behind and over the head of the subject.

When the observer, who stands off a few feet from the subject, looks through the sight-hole, he observes that the pupil, instead of being black, is more or less red. This is the color of the retina, which is not ordinarily seen, because the eye of the observer is not placed in position to receive the rays of light coming from the interior of the eye. When the light is moved slowly in different directions across the pupil, a dark shadow will be observed at the edge of the latter. If the eye is near-sighted, this shadow moves in a direction opposite to that of the movements of the mirror. If it is far-sighted it moves in the same direction. If it is normal, the shadow remains stationary. When the shadow moves in one direction in one meridian, and in the opposite direction in another, the eye has mixed astigmatism. The shadow may, for instance, go with the light when the mirror is moved up and down, and in an opposite direction to it when the mirror is moved from side to side. In the case of other kinds of astigmatism the observer may note that the shadow moves more decidedly in one meridian than in the other. When errors of refraction are corrected by glasses there will be no movement of the shadow.

The retinoscope can be used as an ophthalmoscope simply by lessening the distance between the observer and the subject. The principle is just the same as that involved in looking through a keyhole into a room. The closer you come to the keyhole the more you will see. At a distance of about half an inch, by looking a little toward the inside of the eye, one will begin to see the optic nerve, an area whiter than the rest of the interior of the eyeball and apparently about one-quarter of an inch in diameter. Radiating from the center one sees fine streaks of branching blood vessels, the darker being the veins, the lighter the arteries.



A simple home-made retinoscope, made by scratching a small hole in the silver back of a small mirror, to be used for self testing in conjunction with another larger mirror.

It requires no experience to make these observations, and children of ten have used the instrument successfully. The larger the pupil the easier it is, just as in the case of the keyhole. The larger the opening the more one sees in both cases. The normal eye is more easily examined than a defective one, and young adults than older or younger persons. The light should be thrown on the blind spot, the entrance of the optic nerve, as the pupil contracts when it is thrown on the center of sight. The red light should be seen constantly in the pupil. When it is lost the observer should withdraw a little and get it again, afterward bringing the instrument up close to the eye.

Shadow Test, Retinoscopy, Keratoscopy, Pupilloscopy, Skiascopy.—This test, which is very valuable as an auxiliary, is especially useful in the examination of the eyes of children, as well as of those people whose statements are not to be relied upon. It is especially advantageous in the examination of children, as it is difficult to get them to fix an object (in the examination with the ophthalmoscope they invariably want to look at the instrument or at your eye).

Fig. 96.

In the shadow test, the kind of refraction is determined by the direction of the shadow in the pupil cast by the reflection of light from the retina. The patient should be placed in a darkened room, with a electric light immediately above her head. The operator should be at least a metre away, and with a plane mirror he should reflect the light into the eye (Fig. 96).

The pupil should be dilated, with the power of accommodation at rest. With the flat or plane mirror, reflect the light into the eye. This will produce a shadow of the fundus in the pupil; and this shadow is made to change its position by simply tilting the mirror.

The pupil is dilated naturally by the darkness of the room. Accommodation is at rest by looking to the far distance. Drugs, eye drops are NOT used.

CHAPTER XXVII

THE PREVENTION AND CURE OF MYOPIA AND OTHER ERRORS OF REFRACTION IN SCHOOLS: A METHOD THAT SUCCEEDED

YOU cannot see anything with perfect sight unless you have seen it before. When the eye looks at an unfamiliar object it always strains more or less to see that object, and an error of refraction is always produced. When children look at unfamiliar writing or figures on the blackboard, distant maps, diagrams, or pictures, the retinoscope always shows that they are myopic, though their vision may be under other circumstances absolutely normal. The same thing happens when adults look at unfamiliar distant objects. When the eye regards a familiar object, however, the effect is quite otherwise. Not only can it be regarded without strain, but the strain of looking later at unfamiliar objects is lessened.

This fact furnishes us with a means of overcoming the mental strain to which children are subjected by the modern educational system. It is impossible to see anything perfectly when the mind is under a strain, and if children become able to relax when looking at familiar objects, they become able, sometimes in an incredibly brief space of time, to maintain their relaxation when looking at unfamiliar objects.

I discovered this fact while examining the eyes of 1,500 school children at Grand Forks, N. D., in 1903.[1] In

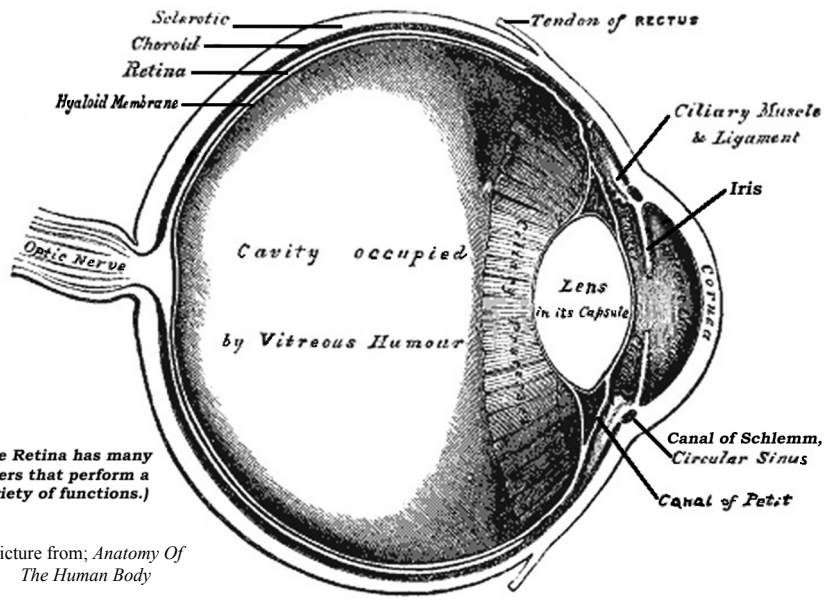
[1] Bates: The Prevention of Myopia in School Children, N. Y. Med. Jour., July 29, 1911.

Ophthalmoscopic Examination. Upright or direct image.

There are two methods of using the ophthalmoscope, the direct and the indirect. For the most of the work, especially for the purpose of gaining an accurate knowledge of the back of the eye, or fundus, the direct method is the one that will give the best results.

many cases, children who could not read all of the letters on the Snellen test card at the first test read them at the second or third test. After a class had been examined the children who had failed would sometimes ask for a second or third test. After a class had been examined, read the whole card with perfect vision. So frequent were these occurrences that there was no escaping the conclusion that in some way the vision was improved by reading the Snellen test card. In one class I found a boy who at first appeared to be very myopic, but who, after a little encouragement, read all the letters on the test card. The teacher asked me about this boy's vision, because she had found him to be very "nearsighted." When I said that his vision was normal she was incredulous, and suggested that he might have learned the letters by heart, or been prompted by another pupil. He was unable to read the writing or figures on the blackboard, she said, or to see the maps, charts and diagrams on the walls, and did not recognize people across the street. She asked me to test his sight again, which I did, very carefully, under her supervision, the sources of error which she had suggested being eliminated. Again the boy read all the letters on the card. Then the teacher tested his sight. She wrote some words and figures on the blackboard, and asked him to read them. He did so correctly. Then she wrote additional words and figures, which he read equally well. Finally she asked him to tell the hour by the clock, twenty-five feet distant, which he did correctly. It was a dramatic situation, both the teacher and the children being intensely interested. Three other cases in the class were similar, their vision, which had previously been very defective for distant objects, becoming normal in the few moments devoted

A Vertical Section of the Eyeball. (Enlarged.)



Picture from; *Anatomy Of The Human Body*

to testing their eyes. It is not surprising that after such a demonstration the teacher asked to have a Snellen test card placed permanently in the room. The children were directed to read the smallest letters they could see from their seats at least once every day, with both eyes together and with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. Those whose vision was defective were encouraged to read it more frequently, and, in fact, needed no encouragement to do so after they found that the practice helped them to see the blackboard, and stopped the headaches, or other discomfort, previously resulting from the use of their eyes.

In another class of forty children, between six and eight, thirty of the pupils gained normal vision while their eyes were being tested. The remainder were cured later under the supervision of the teacher by exercises in distant vision with the Snellen card. This teacher had noted every year for fifteen years that at the opening of the school in the fall all the children could see the writing on the blackboard from their seats, but before school closed the following spring all of them without exception complained that they could not see it at a distance of more than ten feet. After learning of the benefits to be derived from the daily practice of distant vision with familiar objects as the points of fixation, this teacher kept a Snellen test card continually in her classroom and directed the children to read it every day. The result was that for eight years no more of the children under her care acquired defective eyesight.

This teacher had attributed the invariable deterioration in the eyesight of her charges during the school year to the fact that her classroom was in the basement and the

light poor. But teachers with well-lighted classrooms had the same experience, and after the Snellen test card was introduced into both the well-lighted and the poorly lighted rooms, and the children read it every day, the deterioration of their eyesight not only ceased, but the vision of all improved. Vision which had been below normal improved, in most cases, to normal, while children who already had normal sight, usually reckoned at 20/20, became able to read 20/15, or 20/10. And not only was myopia cured, but the vision for near objects was improved.

At the request of the superintendent of the schools of Grand Forks, Mr. J. Nelson Kelly, the system was introduced into all the schools of the city and was used continuously for eight years, during which time it reduced myopia among the children, which I found at the beginning to be about six per cent, to less than one per cent.

In 1911 and 1912 the same system was introduced into some of the schools of New York City,[1] with an attendance of about ten thousand children. Many of the teachers neglected to use the cards, being unable to believe that such a simple method, and one so entirely at variance with previous teaching on the subject, could accomplish the desired results. Others kept the cards in a closet except when they were needed for the daily eye drill, lest the children should memorize them. Thus they not only put an unnecessary burden upon themselves, but did what they could to defeat the purpose of the system, which is to give the children daily exercise in distant vision with a familiar object as the point of fixation. A considerable number, however, used the system intelligently and persistently, and in less than a year were

[1] Bates: Myopia Prevention by Teachers, N. Y. Med. Jour., Aug. 30, 1913.

able to present reports showing that of three thousand children with imperfect sight, over one thousand had obtained normal vision by its means. Some of these children, as in the case of the children of Grand Forks, were cured in a few minutes. Many of the teachers were also cured, some of them very quickly. In some cases the results of the system were so astonishing as to be scarcely credible.

In a class of mental defectives, where the teacher had kept records of the eyesight of the children for several years, it had been invariably found that their vision grew steadily worse as the term advanced. As soon as the Snellen test card had been introduced, however, they began to improve. Then came a doctor from the Board of Health who tested the eyes of the children and put glasses on all of them, even those whose sight was fairly good. The use of the card was then discontinued, as the teacher did not consider it proper to interfere while the children were wearing glasses prescribed by a physician. Very soon, however, the children began to lose, break, or discard their glasses. Some said that the spectacles gave them headaches, or that they felt better without them. In the course of a month or so most of the aids to vision which the Board of Health had supplied had disappeared. The teacher then felt herself at liberty to resume the use of the Snellen test card. Its benefits were immediate. The eyesight and the mentality of the children improved simultaneously, and soon they were all drafted into the regular classes, because it was found that they were making the same progress in their studies as the other children were.

Another teacher reported an equally interesting experience. She had a class of children who did not fit into

the other grades. Many of them were backward in their studies. Some were persistent truants. All of them had defective eyesight. A Snellen test card was hung in the classroom where all the children could see it, and the teacher carried out my instructions literally. At the end of six months all but two had been cured, and these had improved very much, while the worst incorrigible and the worst truant had become good students. The incorrigible, who had previously refused to study, because, he said, it gave him a headache to look at a book, or at the blackboard, found out that the test card, in some way, did him a lot of good; and although the teacher had asked him to read it but once a day, he read it whenever he felt uncomfortable. The result was that in a few weeks his vision had become normal and his objection to study had disappeared. The truant had been in the habit of remaining away from school two or three days every week, and neither his parents nor the truant officer had been able to do anything about it. To the great surprise of his teacher he never missed a day after having begun to read the Snellen test card. When she asked for an explanation, he told her that what had driven him away from school was the pain that came in his eyes whenever he tried to study, or to read the writing on the blackboard. After reading the Snellen test card, he said, his eyes and head were rested and he was able to read without any discomfort.

To remove any doubts that might arise as to the cause of the improvement noted in the eyesight of the children, comparative tests were made with and without cards. In one case six pupils with defective sight were examined daily for one week without the use of the test card. No improvement took place. The card was then restored to its place, and the group was instructed to read it every

day. At the end of a week all had improved and five were cured. In the case of another group of defectives the results were similar. During the week that the card was not used, no improvement was noted; but after a week of exercises in distant vision with the card all showed marked improvement, and at the end of a month all were cured. In order that there might be no question as to the reliability of the records of the teachers, some of the principals asked the Board of Health to send an inspector to test the vision of the pupils, and whenever this was done the records were found to be correct.

One day I visited the city of Rochester, and while there I called on the Superintendent of Public Schools and told him about my method of preventing myopia. He was very much interested and invited me to introduce it in one of his schools. I did so, and at the end of three months a report was sent to me showing that the vision of all the children had improved, while quite a number of them had obtained normal vision in both eyes.

The method has been used in a number of other cities and always with the same result. The vision of all the children improved, and many of them obtained normal vision in the course of a few minutes, days, weeks, or months.

It is difficult to prove a negative proposition, but since this system improved the vision of all the children who used it, it follows that none could have grown worse. It is therefore obvious that it must have prevented myopia. This cannot be said of any method of preventing myopia in schools which had previously been tried. All other methods are based on the idea that it is the excessive use of the eyes for near work that causes myopia, and all of them have admittedly failed.

It is also obvious that the method must have prevented

other errors of refraction, a problem which previously had not even been seriously considered, because hypermetropia is supposed to be congenital, and astigmatism was until recently supposed also to be congenital in the great majority of cases. Anyone who knows how to use a retinoscope may, however, demonstrate in a few minutes that both of these conditions are acquired; for no matter how astigmatic or hypermetropic an eye may be, its vision always becomes normal when it looks at a blank surface without trying to see. It may also be demonstrated that when children are learning to read, write, draw, sew, or to do anything else that necessitates their looking at unfamiliar objects at the near-point, hypermetropia, or hypermetropic astigmatism, is always produced. The same is true of adults. These facts have not been reported before, so far as I am aware, and they strongly suggest that children need, first of all, eye education. They must be able to look at strange letters or objects at the near-point without strain before they can make much progress in their studies, and in every case in which the method has been tried it has been proven that this end is attained by daily exercise in distant vision with the Snellen test card. When their distant vision has been improved by this means, children invariably become able to use their eyes without strain at the near-point.

The method succeeded best when the teacher did not wear glasses. In fact, the effect upon the children of a teacher who wears glasses is so detrimental that no such person should be allowed to be a teacher, and since errors of refraction are curable, such a ruling would work no hardship on anyone. Not only do children imitate the visual habits of a teacher who wears glasses, but the

nervous strain of which the defective sight is an expression produces in them a similar condition. In classes of the same grade, with the same lighting, the sight of children whose teachers did not wear glasses has always been found to be better than the sight of children whose teachers did wear them. In one case I tested the sight of children whose teacher wore glasses, and found it very imperfect. The teacher went out of the room on an errand, and after she had gone I tested them again. The results were very much better. When the teacher returned she asked about the sight of a particular boy, a very nervous child, and as I was proceeding to test him she stood before him and said, "Now, when the doctor tells you to read the card, do it." The boy couldn't see anything. Then she went behind him, and the effect was the same as if she had left the room. The boy read the whole card.

Still better results would be obtained if we could reorganize the educational system on a rational basis. Then we might expect a general return of that primitive acuity of vision which we marvel at so greatly when we read about it in the memoirs of travellers. But even under existing conditions it has proven beyond the shadow of a doubt that errors of refraction are no necessary part of the price we must pay for education.

There are at least ten million children in the schools of the United States who have defective sight. This condition prevents them from taking full advantage of the educational opportunities which the State provides. It undermines their health and wastes the taxpayers' money. If allowed to continue, it will be an expense and a handicap to them throughout their lives. In many cases it will be a source of continual misery and suffering. And

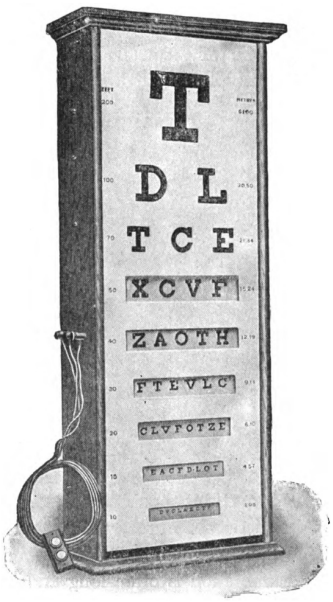
yet practically all of these cases could be cured and the development of new ones prevented by the daily reading of the Snellen test card.

Why should our children be compelled to suffer and wear glasses for want of this simple measure of relief? It costs practically nothing. In fact, it would not be necessary, in some cases, as in the schools of New York City, even to purchase the Snellen test cards, as they are already being used to test the eyes of the children. Not only does it place practically no additional burden upon the teachers, but, by improving the eyesight, health, disposition and mentality of their pupils, it greatly lightens their labors. No one would venture to suggest, further, that it could possibly do any harm. Why, then, should there be any delay about introducing it into the schools? If there is still thought to be need for further investigation and discussion, we can investigate and discuss just as well after the children get the cards as before, and by adopting that course we shall not run the risk of needlessly condemning another generation to that curse which heretofore has always dogged the footsteps of civilization, namely, defective eyesight. I appeal to all who read these lines to use whatever influence they possess toward the attainment of this end.

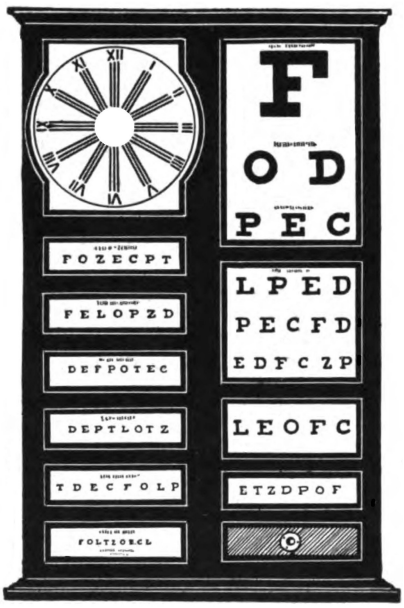
DIRECTIONS

FOR USING THE SNELLEN TEST CARD FOR THE PREVENTION AND CURE OF IMPERFECT SIGHT IN SCHOOLS

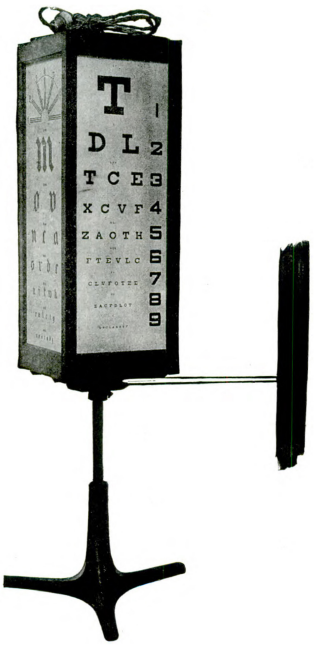
The Snellen Test Card is placed permanently upon the wall of the classroom, and every day the children silently read the smallest letters they can see from their seats with each eye separately, the other being covered



Meyrowitz alternating test-type cabinet.



Black's Testing Cabinet No. 1.



Black's Testing Cabinet No. 2.

with the palm of the hand in such a way as to avoid pressure on the eyeball. This takes no appreciable amount of time and is sufficient to improve the sight of all children in one week and to cure all errors of refraction after some months, a year, or longer.

Children with markedly defective vision should be encouraged to read the card more frequently. Children wearing glasses should not be interfered with, as they are supposed to be under the care of a physician, and the practice will do them little or no good while the glasses are worn.

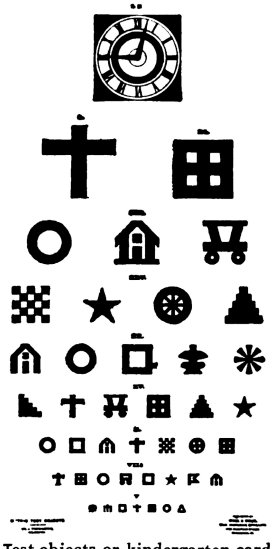
While not essential, it is a great advantage to have records made of the vision of each pupil at the time when the method is introduced, and thereafter at convenient intervals—annually or more frequently. This may be done by the teacher.

The records should include the name and age of the pupils, the vision of each eye tested at twenty feet, and the date. For example:

John Smith, 10, Sept. 15, 1919
R. V. (vision of the right eye) 20/40
L. V. (vision of the left eye) 20/20

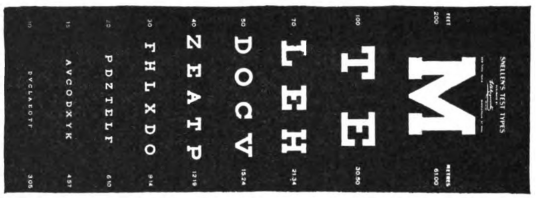
John Smith, 11, January 1, 1920
R. V. 20/30
L. V. 20/15

A certain amount of supervision is absolutely necessary. At least once a year some one who understands the method should visit each classroom for the purpose of answering questions, encouraging the teachers to continue the use of the method, and making some kind of a report to the proper authorities. It is not necessary that either the supervisor, the teachers, or the children should understand anything about the physiology of the eye.

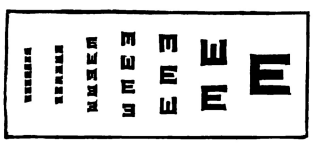


Test objects or kindergarten card for children and illiterates.

The record of vision is usually made in fractions. The numerator always indicates the distance between the patient and the card. If this is 6 meters (20 feet), the numerator is 6 or 20, depending upon whether meters or feet are understood. The more common in this country is 20. The denominator indicates the size of type read at the distance indicated by the numerator.



White-on-black test-type card.



Snellen's test-type card for illiterates.

If a patient seated 20 feet from the test-card reads the line marked 20, the vision is 20/20, or normal.

CHAPTER XXVIII

THE STORY OF EMILY

THE efficacy of the method of treating imperfect sight without glasses presented in this book has been demonstrated in thousand of cases, not only in my own practice but in that of many persons of whom I may not even have heard; for almost all patients, when they are cured, proceed to cure others. At a social gathering one evening a lady told me that she had met a number of my patients; but when she mentioned their names I found that I did not remember any of them and said so.

"That is because you cured them by proxy," she said. "You didn't directly cure Mrs. Jones or Mrs. Brown, but you cured Mrs. Smith, and Mrs. Smith cured the other ladies. You didn't treat Mr. and Mrs. Simpkins, or Mr. Simpkins' mother and brother, but you may remember that you cured Mr. Simpkins' boy of a squint, and he cured the rest of the family."

In schools where the Snellen test card was used to prevent and cure imperfect sight, the children, after they were cured themselves, often took to the practice of ophthalmology with the greatest enthusiasm and success, curing their fellow students, their parents and their friends. They made a kind of game of the treatment, and the progress of each school case was watched with the most intense interest by all the children. On a bright day, when the patients saw well, there was great rejoicing, and on a dark day there was corresponding depression. One girl cured twenty-six children in six months; another cured twelve in three months; a third

developed quite a varied ophthalmological practice, and did things of which older and more experienced practitioners might well have been proud. Going to the school which she attended one day, I asked this girl about her sight, which had been very imperfect. She replied that it was now very good and that her headaches were quite gone. I tested her sight and found it normal. Then another child whose sight had also been very poor spoke up.

"I can see all right, too," she said. "Emily"—indicating girl No. 1—"cured me."

"Indeed!" I replied. "How did she do that?"

The second girl explained that Emily had had her read the card, which she could not see at all from the back of the room, at a distance of a few feet. The next day she had moved it a little farther away, and so on, until the patient was able to read it from the back of the room, just as the other children did. Emily now told her to cover the right eye and read the card with her left, and both girls were considerably upset to find that the uncovered eye was apparently blind. The school doctor was consulted and said that nothing could be done. The eye had been blind from birth and no treatment would do any good.

Nothing daunted, however, Emily undertook the treatment. She told the patient to cover her good eye and go up close to the card, and at a distance of a foot or less it was found that she could read even the small letters. The little practitioner then proceeded confidently as with the other eye, and after many months of practice the patient became the happy possessor of normal vision in both eyes. The case had, in fact, been simply one of high myopia, and the school doctor, not being a specialist, had not detected the difference between this condition and blindness.

In the same classroom there had been a little girl with congenital cataract, but on the occasion of my visit the defect had disappeared. This, too, it appeared, was Emily's doing. The school doctor had said that there was no help for this eye except through operation, and as the sight of the other eye was pretty good, he fortunately did not think it necessary to urge such a course. Emily accordingly took the matter in hand. She had the patient stand close to the card, where, with the good eye covered, she was unable to see even the big C. Emily now held the card between the patient and the light, and moved it back and forth. At a distance of three or four feet this movement could be observed indistinctly by the patient. The card was then moved farther away, until the patient became able to see it move at ten feet and to see some of the larger letters indistinctly at a less distance. Finally, after six months, she became able to read the card with the bad eye as well as with the good one. After testing her sight and finding it normal in both eyes, I said to Emily:

"You are a splendid doctor. You beat them all. Have you done anything else?"

The child blushed, and turning to another of her classmates, said:

"Mamie, come here."

Mamie stepped forward and I looked at her eyes. There appeared to be nothing wrong with them.

"I cured her," said Emily.

"What of?" I inquired.

"Cross eyes," replied Emily.

"How?" I asked, with growing astonishment.

Emily described a procedure very similar to that adopted in the other cases. Finding that the sight of the crossed eye was very poor, so much so, indeed, that poor

Mamie could see practically nothing with it, the obvious course of action seemed to her to be the restoration of its sight; and, never having read any medical literature, she did not know that this was impossible. So she went to it. She had Mamie cover her good eye and practice the bad one at home and at school, until at last the sight became normal and the eye straight. The school doctor had wanted to have the eye operated upon, I was told, but, fortunately, Mamie was "scared" and would not consent. And here she was with two perfectly good, straight eyes.

"Anything else?" I inquired, when Mamie's case had been disposed of. Emily blushed again, and said:

"Here's Rose. Her eyes used to hurt her all the time, and she couldn't see anything on the blackboard. Her headaches used to be so bad that she had to stay away from school every once in a while. The doctor gave her glasses, but they didn't help her and she wouldn't wear them. When you told us the card would help our eyes I got busy with her. I had her read the card close up, and then I moved it farther away, and now she can see all right and her head doesn't ache any more. She comes to school every day, and we all thank you very much."

This was a case of compound hypermetropic astigmatism.

Such stories might be multiplied indefinitely. Emily's astonishing record might not possibly be duplicated, but lesser cures by cured patients have been very numerous, and serve to show that the benefits of the method of preventing and curing defects of vision in the schools which is presented in the foregoing chapter would be far-reaching. Not only errors of refraction would be cured, but many more serious defects; and not only the children would be helped, but their families and friends also.

CHAPTER XXIX

MIND AND VISION

POOR sight is admitted to be one of the most fruitful causes of retardation in the schools. It is estimated[1] that it may reasonably be held responsible for a quarter of the habitually "left-backs," and it is commonly assumed that all this might be prevented by suitable glasses.

There is much more involved in defective vision, however, than mere inability to see the blackboard or to use the eyes without pain or discomfort. Defective vision is the result of an abnormal condition of the mind, and when the mind is in an abnormal condition it is obvious that none of the processes of education can be conducted with advantage. By putting glasses upon a child we may, in some cases, neutralize the effect of this condition upon the eyes, and by making the patient more comfortable may improve his mental faculties to some extent; but we do not alter fundamentally the condition of the mind, and by confirming it in a bad habit we may make it worse.

It can easily be demonstrated that among the faculties of the mind which are impaired when the vision is impaired is the memory; and as a large part of the educational process consists of storing the mind with facts, and all the other mental processes depend upon one's

[1] School Health News, published by the Department of Health of New York City, February, 1919.

knowledge of facts, it is easy to see how little is accomplished by merely putting glasses on a child that has "trouble with its eyes." The extraordinary memory of primitive people has been attributed to the fact that owing to the absence of any convenient means of making written records they had to depend upon their memories, which were strengthened accordingly; but in view of the known facts about the relation of memory to eyesight it is more reasonable to suppose that the retentive memory of primitive man was due to the same cause as his keen vision, namely, a mind at rest.

The primitive memory, as well as primitive keenness of vision, has been found among civilized people; and if the necessary tests had been made it would doubtless have been found that they always occur together, as they did in a case which recently came under my observation. The subject was a child of ten with such marvelous eyesight that she could see the moons of Jupiter with the naked eye a fact which was demonstrated by her drawing a diagram of these satellites which exactly corresponded to the diagrams made by persons who had used a telescope. Her memory was equally remarkable. She could recite the whole content of a book after reading it, as Lord Macaulay is said to have done, and she learned more Latin in a few days without a teacher than her sister, who had six diopters of myopia, had been able to do in several years. She remembered five years afterward what she ate at a restaurant, she called the name of the waiter, the number of the building and the street in which it stood. She also remembered what she wore on this occasion and what every one else in the party wore. The same was true of every other event which had awakened her interest in any way, and it was a

favorite amusement in her family to ask her what the menu had been and what people had worn on particular occasions.

When the sight of two persons is different it has been found that their memories differ in exactly the same degree. Two sisters, one of whom had only ordinary good vision, indicated by the formula 20/20, while the other had 20/10, found that the time it took them to learn eight verses of a poem varied in almost exactly the same ratio as their sight. The one whose vision was 20/10 learned eight verses of the poem in fifteen minutes, while the one whose vision was only 20/20 required thirty-one minutes to do the same thing. After palming, the one with ordinary vision learned eight more verses in twenty-one minutes, while the one with 20/10 was able to reduce her time by only two minutes, a variation clearly within the limits of error. In other words, the mind of the latter being already in a normal or nearly normal condition, she could not improve it appreciably by palming, while the former, whose mind was under a strain, was able to gain relaxation, and hence improve her memory, by this means.

Even when the difference in sight is between the two eyes of the same person, it can be demonstrated, as was pointed out in the chapter on "Memory as an Aid to Vision," that there is a corresponding difference in the memory, according to whether both eyes are open, or the better eye closed.

Under the present educational system there is a constant effort to compel the children to remember. These efforts always fail. They spoil both the memory and the sight. The memory cannot be forced any more than the vision can be forced. We remember without effort,

just as we see without effort, and the harder we try to remember or see the less we are able to do so.

The sort of things we remember are the things that interest us, and the reason children have difficulty in learning their lessons is because they are bored by them. For the same reason, among others, their eyesight becomes impaired, boredom being a condition of mental strain in which it is impossible for the eye to function normally.

Some of the various kinds of compulsion now employed in the educational process may have the effect of awakening interest. Betty Smith's interest in winning a prize, for instance, or in merely getting ahead of Johnny Jones, may have the effect of rousing her interest in lessons that have hitherto bored her, and this interest may develop into a genuine interest in the acquisition of knowledge; but this cannot be said of the various fear incentives still so largely employed by teachers. These, on the contrary, have the effect, usually, of completely paralyzing minds already benumbed by lack of interest, and the effect upon the vision is equally disastrous.

The fundamental reason, both for poor memory and poor eyesight in school children, in short, is our irrational and unnatural educational system. Montessori has taught us that it is only when children are interested that they can learn. It is equally true that it is only when they are interested that they can see. This fact was strikingly illustrated in the case of one of the two pairs of sisters mentioned above. Phebe, of the keen eyes, who could recite whole books if she happened to be interested in them, disliked mathematics and anatomy extremely, and not only could not learn them but became myopic when they were presented to her mind. She

could read letters a quarter of an inch high at twenty feet in a poor light, but when asked to read figures one to two inches high in a good light at ten feet she miscalled half of them. When asked to tell how much 2 and 3 made she said "4," before finally deciding on "5;" and all the time she was occupied with this disagreeable subject the retinoscope showed that she was myopic. When I asked her to look into my eye with the ophthalmoscope, she could see nothing, although a much lower degree of visual acuity is required to note the details of the interior of the eye than to see the moons of Jupiter.

Shortsighted Isabel, on the contrary, had a passion for mathematics and anatomy and excelled in those subjects. She learned to use the ophthalmoscope as easily as Phebe had learned Latin. Almost immediately she saw the optic nerve, and noted that the center was whiter than the periphery. She saw the light-colored lines, the arteries; and the darker ones, the veins; and she saw the light streaks on the blood-vessels. Some specialists never become able to do this, and no one could do it without normal vision. Isabel's vision, therefore, must have been temporarily normal when she did it. Her vision for figures, although not normal, was better than for letters.

In both these cases the ability to learn and the ability to see went hand in hand with interest. Phebe could read a photographic reduction of the Bible and recite what she had read verbatum, she could see the moons of Jupiter and draw a diagram of them afterwards, because she was interested in these things; but she could not see the interior of the eye, nor see figures even half as well as she saw letters, because these things bored her. When, however, it was suggested to her that it would be a good

joke to surprise her teachers, who were always reproaching her for her backwardness in mathematics, by taking a high mark in a coming examination, her interest in the subject awakened and she contrived to learn enough to get seventy-eight per cent. In Isabel's case letters were antagonistic. She was not interested in most of the subjects with which they dealt, and therefore she was backward in those subjects and had become habitually myopic. But when asked to look at objects which aroused an intense interest her vision became normal.

When one is not interested, in short, one's mind is not under control, and without mental control one can neither learn nor see. Not only the memory but all other mental faculties are improved when the eyesight becomes normal. It is a common experience with patients cured of defective sight to find that their ability to do their work has improved.

The teacher whose letter is quoted in a later chapter testified that after gaining perfect eyesight she "knew better how to get at the minds of the pupils," was "more direct, more definite, less diffused, less vague," possessed, in fact, "central fixation of the mind." In another letter she said: "The better my eyesight becomes, the greater is my ambition. On the days when my sight is best I have the greatest anxiety to do things."

Another teacher reported that one of her pupils used to sit doing nothing all day long and apparently was not interested in anything. After the test card was introduced into the classroom and his sight improved, he became anxious to learn, and speedily developed into one of the best students in the class. In other words, his eyes and his mind became normal together.

A bookkeeper nearly seventy years of age who had

worn glasses for forty years found after he had gained perfect sight without glasses that he could work more rapidly and accurately and with less fatigue than ever in his life before. During busy seasons, or when short of help, he has worked for some weeks at a time from 7 a. m. until 11 p. m., and he insisted that he felt less tired at night after he was through than he did in the morning when he started. Previously, although he had done more work than any other man in the office, it always tired him very much. He also noticed an improvement in his temper. Having been so long in the office, and knowing so much more about the business than his fellow employees, he was frequently appealed to for advice. These interruptions, before his sight became normal, were very annoying to him and often caused him to lose his temper. Afterward, however, they caused him no irritation whatever.

In another case, symptoms of insanity were relieved when the vision became normal. The patient was a physician who had been seen by many nerve and eye specialists before he came to me, and who consulted me at last, not because he had any faith in my methods, but because nothing else seemed to be left for him to do. He brought with him quite a collection of glasses prescribed by different men, no two of them being alike. He had worn glasses, he told me, for many months at a time without benefit, and then he had left them off and had been apparently no worse. Outdoor life had also failed to help him. On the advice of some prominent neurologists he had even given up his practice for a couple of years to spend the time upon a ranch, but the vacation had done him no good.

I examined his eyes and found no organic defects and

no error of refraction. Yet his vision with each eye was only three-fourths of the normal and he suffered from double vision and all sorts of unpleasant symptoms. He used to see people standing on their heads and little devils dancing on the tops of the high buildings. He also had other illusions too numerous to be mentioned here. At night his sight was so bad that he had difficulty in finding his way about, and when walking along a country road he believed that he saw better when he turned his eyes far to one side and viewed the road with the side of the retina instead of with the center. At variable intervals, without warning and without loss of consciousness, he had attacks of blindness. These caused him great uneasiness, for he was a surgeon with a large and lucrative practice and he feared that he might have an attack while operating.

His memory was very poor. He could not remember the color of the eyes of any member of his family, although he had seen them all daily for years. Neither could he recall the color of his house, the number of rooms on the different floors or other details. The faces and names of patients and friends he recalled with difficulty or not at all.

His treatment proved to be very difficult, chiefly because he had an infinite number of erroneous ideas about physiological optics in general and his own case in particular, and insisted that all these should be discussed; while these discussions were going on he received no benefit. Every day for hours at a time over a long period he talked and argued. His logic was wonderful, apparently unanswerable, and yet utterly wrong.

His eccentric fixation was of such high degree that when he looked at a point forty-five degrees to one side

of the big C on the Snellen test card he saw the letter just as black as when he looked directly at it. The strain to do this was teriffic and produced much astigmatism; but the patient was unconscious of it and could not be convinced that there was anything abnormal in the symptom. If he saw the letter at all, he argued, he must see it as black at it really was, because he was not color-blind. Finally he became able to look away from one of the smaller letters on the card and see it worse than when he looked directly at it. It took eight or nine months to accomplish this, but when it had been done the patient said that it seemed as if a great burden had been lifted from his mind. He experienced a wonderful feeling of rest and relaxation throughout his whole body.

When asked to remember black with his eyes closed and covered he said he could not do so, and he saw every color but the black which one ought normally to see when the optic nerve is not subject to the stimulus of light. He had, however, been an enthusiastic football player at college, and he found at last that he could remember a black football. I asked him to imagine that this football had been thrown into the sea and that it was being carried outward by the tide, becoming constantly smaller but no less black. This he was able to do, and the strain floated with the football, until, by the time the latter had been reduced to the size of a period in a newspaper, it was entirely gone. The relief continued as long as he remembered the black spot, but as he could not remember it all the time, I suggested another method of gaining permanent relief. This was to make his sight voluntarily worse, a plan against which he protested with considerable emphasis.

"Good heavens!" he said. "Isn't my sight bad enough without making it worse?"

After a week of argument, however, he consented to try the method and the result was extremely satisfactory. After he had learned to see two or more lights where there was only one, by straining to see a point above the light while still trying to see the light as well as when looking directly at it, he became able to avoid the unconscious strain that had produced his double and multiple vision and was not troubled by these superfluous images any more. In a similar manner other illusions were prevented.

One of the last illusions to disappear was his belief that an effort was required to remember black. His logic on this point was overwhelming, but after many demonstrations he was convinced that no effort was required to let go, and when he realized this, both his vision and his mental condition immediately improved.

He finally became able to read 20/10 or more, and although more than fifty-five years of age, he also read diamond type at from six to twenty-four inches. His night blindness was relieved, his attacks of day blindness ceased, and he told me the color of the eyes of his wife and children. One day he said to me:

"Doctor, I thank you for what you have done for my sight, but no words can express the gratiude I feel for what you have done for my mind."

Some years later he called with his heart full of gratitude, because there had been no relapse.

From all these facts it will be seen that the problems of vision are far more intimately associated with the problems of education than we had supposed, and that they can by no means be solved by putting concave, or convex, or astigmatic lenses before the eyes of the children.

CHAPTER XXX

NORMAL SIGHT AND THE RELIEF OF PAIN FOR SOLDIERS AND SAILORS

THE Great War is over and among the millions of brave men who laid down their lives in the cruel conflict there were some who thought that they were doing so that wars might be no more. But the earth is still filled with wars and rumors of war, and in the countries of the victorious Allies the spirit of militarism is rampant. In the United States we are being urged to increase naval and military expenditure, and there is a strong demand for universal military training. Whether it is necessary for us to join in the competition of armaments which resulted in the terrific convulsion through which we have just passed is a question which need not be entered into here; but if we are going to do so, we may as well have soldiers and sailors with normal sight; and if we attain this end we shall not have borne the burdens of militarism and navalism altogether in vain.

After the United States entered the recent war I had the privilege of making it possible for many young men who had been unable to meet the visual requirements for admission to the army and navy, or to favorite branches of these services, to gain normal vision; and seeing no reason why such benefits should be confined to the few, I supplied the Surgeon General of the Army with a plan whereby, with far less trouble and expense than was involved by the optical service upon which

we were then depending to make the worst of the enlisted eye-defectives available for service at the front, normal vision without glasses might have been insured to all soldiers and sailors. This plan was not acted upon, and I now present it, with some modifications, to the public, in the hope that enough people will see its military value to secure its adoption.

If we are to have universal military training, we shall find, as the nations of Europe have found, that it will be necessary to take measures to provide suitable material for such training. In Europe this necessity has resulted in extensive systems of child care, but in this book we are concerned only with the question of eyesight. In the first draft for the recent war, defective eyesight was the greatest single cause for rejection, while in later drafts it became one of three leading causes only because of an enormous lowering of an already low standard. Yet there is no impediment to the raising of an army which might be more easily removed. If we want our children to grow big enough to be soldiers, without losing most of their teeth and developing flat feet and crooked spines before they reach the military age, we shall have to make some arrangements, as every one of the advanced countries of Europe has done, for providing material as well as intellectual food in the schools. We shall have to employ school physicians on full time, and pay them enough to compensate men of eminence for the loss of private practice. We shall also have to see that the children are not sacrificed to the ignorance or poverty of their parents before they reach school age. But to preserve their eyesight it is only necessary to place Snellen test cards in every school classroom and see that the children read them every day. With this simple

system of eye education beginning in the kindergarten and extending through the whole educational process up to the university and the professional school, it would soon be found that the young men of the country, on arrival at the military age, were practically free from eye defects.

But some years must elapse before this happy result can be achieved; and all eyes, moreover, no matter how good their vision, are benefited by the daily practice of the art of seeing, while by such practice those visual lapses to which every eye is subject, and which are particularly dangerous in military and naval operations, are either prevented or minimized. Therefore a system of eye education for training camps and the front should also be provided. For this purpose the method used in the schools could be modified.

Under conditions of actual warfare, or on the parade grounds of training camps, a Snellen test card might be impracticable, but there are other letters, or small objects, on the uniforms, on the guns, on the wagons, or elsewhere, which would serve the purpose equally well.

Letters or objects which require a vision of 20/20 should be selected by some one who has been taught what 20/20 means, and the men should be required to regard these letters or objects twice a day. After reading the letters they should be directed to cover their closed eyes with the palms of their hands to shut out all the light, and remember some color, preferably black, as well as they are able to see it, for half a minute. Then they should read the letters again and note any improvement in vision. The whole procedure would not take more than a minute. It should be made part of the regular drill, night and morning, and men with imperfect sight

should be encouraged to repeat it as many times a day as convenient. They will need no urging: for imperfect vision is a bar to advancement and excludes from the favorite branch of the service, namely, aviation.

In each regiment every ten men should be under the supervision of one man who understands the method, and who must possess normal vision without glasses. He should carry a pocket test card, consisting of a few of the smaller letters, and should test the vision of the men at the beginning of the training, and thereafter at intervals of three months, reporting the results to the medical officer in charge.

Since errors of refraction are curable, no soldier should be allowed to wear glasses; but if the use of these aids to vision is permitted, the men wearing them should not be required to take part in the eye drills, as the method will do them no good under these conditions. When they see the benefits of eye education, however, they may wish to share them and will, no doubt, be willing to submit to the inconvenience resulting, temporarily, from going without their glasses.

In military colleges the same method could be used as in the schools; but a daily eye drill should also form part of the maneuvers on the parade ground, so that the students may be prepared to use it later in training camps or at the front.

To aviators, whether engaged in military or civilian operations, or whether they are flying merely for pleasure, eye education is of particular importance. Accidents to aviators, otherwise unaccountable, are easily explained when one understands how dependent the aviator is upon his eyesight, and how easily perfect vision may be lost amid the unaccustomed surroundings, the dangers and

hardships of the upper air. It was formerly supposed that aviators maintained their equilibrium in the air by the aid of the internal ear; but it is now becoming evident from the testimony of aviators who have found themselves emerging from a cloud with one wing down, or even with their machines turned completely upside down, that equilibrium is maintained almost entirely, if not altogether, by the sense of sight.[1] If the aviator loses his sight, therefore, he is lost, and we have one of those "unaccountable" accidents which, during the war, were so unhappily common in the air service. All aviators, therefore, should make a daily practice of reading small, familiar letters, or observing other small, familiar objects, at a distance of ten feet or more. In addition, they should have a few small letters, or a single letter, on their machines, at a distance of five, ten, or more feet from their eyes, arrangements being made to illuminate them for night flying and fogs, and should read them frequently while in the air. This would greatly lessen the danger of visual lapses with their accompanying loss of equilibrium and judgment.

As has already been pointed out, eye education not only improves the sight, but affords a means by which pain, fatigue, the symptoms of disease and other discomforts can be relieved. For this latter purpose it is of the greatest value to soldiers and sailors; and if, during the recent war, they had only understood the simple and always available method of relieving pain by the aid of the memory, not only much suffering, but many deaths from the destructive effects of pain upon the body might have been prevented. A soldier in a flooded trench, if he can remember black perfectly, will know the temperature of

[1] Anderson: Lancet, March 16, 1918, p. 398; Hucks: Scientific American, October 6, 1917, p. 263.

the water, but will not suffer from cold. Under the same conditions he may succumb from weakness on the march, but will not feel fatigue. He may die of hemorrhage, but he will die painlessly. It will not be necessary to give him morphine to relieve his pain; and thus to the dangers of the battlefields will not be added the danger of returning to civil life under the handicap of a lifelong morphine habit.

This danger, there is reason to believe, assumed enormous proportions during the war. The Germans used a bullet which broke when it struck the bone and caused intense pain. The men often died of this pain before help arrived. Whey they were rescued the surgeons at once gave them morphine. A few hours later the injection was probably repeated. Then the drug was given less frequently, but in many cases it was not discontinued entirely while the man was in the hospital. A Red Cross surgeon at a meeting of the New York County Medical Society stated that he had been responsible for producing the morphine habit in thousands of soldiers, and that every physician at the front had done the same. By such a simple method as palming all this might have been prevented.

If we are going to have universal military and naval training, an essential part of that training should be the instruction of the prospective soldiers and sailors in the art of relieving their own pain; and in the event of war every one who goes to the front, in whatever capacity, from the generals and admirals down to the ambulance drivers, should understand palming. Everyone in the war zone, no matter how far behind the lines, may need this knowledge to relieve his own pain, and everyone may need it to relieve the pain of others.

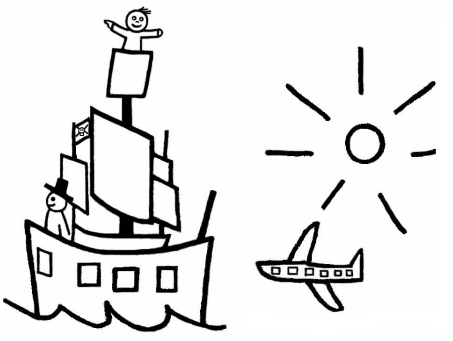
CHAPTER XXXI

LETTERS FROM PATIENTS

The following letters have been selected almost at random from the author's mail-bag, and are only specimens of many more that are equally interesting. They are published because it was felt that the personal stories of patients, told in their own language, might be more interesting and helpful to many readers than the more formal presentation of the facts in the preceding chapters.

ARMY OFFICER CURES HIMSELF

AS noted in the chapter on "What Glasses Do to Us," the sight always improves when glasses are discarded, though this improvement may be so slight as not to be noticed. In a few unusual cases, the patients when freed from the handicap of a condition which compels them to keep their eyes continually under a strain, find out, in some way, how to avoid strain, and thus regain a greater or less degree of their normal visual power. The writer of the following letter was able, without any help from anyone, to discover and put into practice the main principles presented in this book, and thus became able to read without his glasses. He is an engineer, and at the time the letter was written was fifty-one years of age. He had worn glasses since 1896, first for astigmatism, getting stronger ones every couple of years, and then for astigmatism and presbyopia. At one time he asked his oculist and several opticians if the eyes could not be strengthened by exercises, so as to



shifting, central fixation, relaxation, movement, memory and imagination, looking at familiar objects keeps sailors, pilots... vision clear.

make glasses unnecessary, but they said: "No. Once started on glasses you must keep to them." When the war broke out he was very nearly disqualified for service in the Expeditionary Forces by his eyes, but managed to pass the required tests, after which he was ordered abroad as an officer in the Gas Service. While there he saw in the "Literary Digest" of May 2, 1918, a reference to my method of curing defective eyesight without glasses, and on May 11 he wrote to me in part as follows:

"At the front I found glasses a horrible nuisance, and they could not be worn with gas masks. After I had been about six months abroad I asked an officer of the Medical Corps about going without glasses. He said I was right in my ideas and told me to try it. The first week was awful, but I persisted and only wore glasses for reading and writing. I stopped smoking at the same time to make it easier on my nerves.

"I brought to France two pairs of bow spectacles and two extra lenses for repairs. I have just removed the extra piece for near vision from these extra lenses and had them mounted as pince-nez, with shur-on mounts, to use for reading and writing, so that the only glasses I now use are for astigmatism, the age lens being off. Three months ago I could not read ordinary head-line type in newspapers without glasses. To-day, with a good light, I can read ordinary book type, held at a distance of eighteen inches from my eyes. Since the first week in February, when I discarded my glasses, I have had no headaches, stomach trouble, or dizziness, and am in good health generally. My eyes are coming back, and I believe it is due to sticking it out. I ride considerably in automobiles and trams, and somehow

The speed of the swing is about equal to the time of the moving feet of soldiers on the march.

the idea has crept into my mind that after every trip my eyes are stronger. This, I think, is due to the rapid changing of focus in viewing scenery going by so fast. Other men have tried this plan on my advice, but gave it up after two or three days. Yet, from what they say, I believe they were not so uncomfortable as I was for a week or ten days. I believe most people wear glasses because they 'coddle' their eyes."

The patient was right in thinking that the motor and tram rides improved his sight. The rapid motion compelled rapid shifting.

A TEACHER'S EXPERIENCES

It has frequently been pointed out in this book that imperfect vision is always associated with an abnormal state of the mind, and that when the vision improves the mental faculties improve also, to a greater or lesser degree. The following letter is a striking illustration of this fact. The writer, a teacher forty years of age, was first treated on March 28, 1919. She was wearing the following glasses: right eye, convex 0.75D.S. with convex 4.00D.C., 105 deg.; left eye, convex 0.75D.S. with convex 3.50D.C., 105 deg. On June 9, 1919, she wrote:

"I will tell you about my eyes, but first let me tell you other things. You were the first to unfold your theories to me, and I found them good immediately—that is, I was favorably impressed from the start. I did not take up the cure because other people recommended it, but because I was convinced: first, that you believed in your discovery yourself; second, that your theory of the cause of eye trouble was true. I don't know how I knew these two things, but I did. After a little conversation with you, you and your discovery both seemed to me to bear

the ear-marks of the genuine article. As to the success of the method with myself I had a little doubt. You might cure others, but you might not be able to cure me. However, I took the plunge, and it has made a great change in me and my life.

"To begin with, I enjoy my sight. I love to look at things, to examine them in a leisurely, thorough way, much as a child examines things. I never realized it at the time, but it was irksome for me to look at things when I was wearing glasses, and I did as little of it as possible. The other day, going down on the Sandy Hook boat, I enjoyed a most wonderful sky without that hateful barrier of misted glasses, and I am positive I distinguished delicate shades of color that I never would have been able to see, even with clear glasses. Things seem to me now to have more form, more reality, than when I wore glasses. Looking into the mirror you see a solid representation on a flat surface, and the flat glass can't show you anything really solid. My eyeglasses, of course, never gave me this impression, but one curiously like it. I can see so clearly without them that it is like looking around corners without changing the position. I feel that I can almost do it.

"I very seldom have occasion to palm. Once in a great while I feel the necessity of it. The same with remembering a period. Nothing else is ever necessary. I seldom think of my eyes, but at times it is borne in upon me how much I do use and enjoy using them.

"My nerves are much better. I am more equable, have more poise, I am less shy. I never used to show that I was shy, or lacked confidence. I used to go ahead and do what was required, if not without hesitation; but it was hard. Now I find it easy. Glasses, or poor sight

rather, made me self-conscious. It certainly is a great defect, and one people are sensitive to without realizing it. I mean the poor sight and the necessity for wearing glasses. I put on a pair of glasses the other day just for an experiment, and I found that they magnified things. My skin looked as if under a magnifying glass. Things seemed too near. The articles on my chiffonier looked so close I felt like pushing them away from me. The glasses I especially wanted to push away. They brought irritation at once. I took them off and felt peaceful. Things looked normal.

"From the beginning of the treatment I could use my eyes pretty well, but they used to tire. I remember making a large Liberty Loan poster two weeks after I took off my glasses, and I was amazed to find I could make the whole layout almost perfectly without a ruler, just as well as with my glasses. When I came to true it up with the ruler I found only the last row of letters a bit out of line at the very end. I couldn't have done better with glasses. However, this wasn't fine work. About the same time I sewed a hem at night in a black dress, using a fine needle. I suffered a little for this, but not much. I used to practice my exercises at that time, and palm faithfully. Now I don't have to practice, or palm; I feel no discomfort, and I am absolutely unsparing in my use of my eyes. I do everything I want to with them. I shirk nothing, pass up no opportunity of using them. From the first I did all my school work, read every notice, wrote all that was necessary, neglected nothing.

"Now to sum up the school end of it: I used to get headaches at the end of the month from adding columns of figures necessary to reports, etc. Now I do not get them. I used to get flustered when people came into

my room. Now I do not; I welcome them. It is a pleasant change to feel this way. And—I suppose this is most important really, though I think of it last—I teach better. I know how to get at the mind and how to make the children see things in perspective. I gave a lesson on the horizontal cylinder recently, which, you know, is not a thrillingly interesting subject, and it was a remarkable lesson in its results and in the grip it got on every girl in the room, stupid or bright. What you have taught me makes me use the memory and imagination more, especially the latter, in teaching.

"To sum up the effect of being cured upon my own mind: I am more direct, more definite, less diffused, less vague. In short, I am conscious of being better centered. It is central fixation of the mind. I saw this in your latest paper, but I realized it long ago and knew what to call it."

A MENTAL TRANSITION

A man of forty-four who had worn glasses since the age of twenty was first seen on October 8, 1917, when he was suffering, not only from very imperfect sight, but from headache and discomfort. He was wearing for the right eye concave 5.00D.S. with concave 0.50D.C., 180 degrees, and for the left concave 2.50D.S. with concave 1.50D.C., 180 degrees. As his visits were not very frequent and he often went back to his glasses, his progress was slow. But his pain and discomfort were relieved very quickly, and almost from the beginning he had flashes of greatly improved and even of normal vision. This encouraged him to continue, and his progress, though slow, was steady. He has now gone without his glasses entirely for some months, and his nervous con-

dition has improved as much as his sight. His wife was particularly impressed with the latter effect, and in December, 1919, she wrote:

"I have become very much interested in the thought of renewing my youth by becoming like a little child. The idea of the mental transition is not unfamiliar, but that this mental, or I should say spiritual, transition should produce a physical effect, which would lead to seeing clearly, is a sort of miracle very possible indeed, I should suppose, to those who have faith.

"In my husband's case, certainly some such miracle was wrought; for not only was he able to lay aside his spectacles after many years' constant use, and to see to read in almost any light, but I particularly noticed his serenity of mind after treatments. In this serenity he seemed able to do a great deal of work efficiently, and not under the high nervous pressure whose after-effect is the devastating scattering of forces.

"It did not occur to me for a long time that perhaps your treatment was quieting his nerves. But I think now that the quiet periods of relaxation, two or three times a day, during which he practiced with the letter card, must have had a very beneficial effect. He is so enthusiastic by nature, and his nerves are so easily stimulated, that for years he used to overdo periodically. Of course, his greatly improved eyesight and the relief from the former strain must have been a large factor in this improvement. But I am inclined to think that the intervals of quiet and peace were wonderfully beneficial, and why shouldn't they be? We are living on stimulants, physical stimulants, mental stimulants of all kinds. The minute these stop we feel we are merely existing, and yet, if we retain any of the normality of our youth, do you

not think that we respond very happily to natural simple things?"

RELIEF AFTER TWENTY-FIVE YEARS

While many persons are benefited by the accepted methods of treating defects of vision, there is a minority of cases, known to every eye specialist, which gets little or no help from them. These patients sometimes give up the search for relief in despair, and sometimes continue it with surprising pertinacity, never being able to abandon the belief, in spite of the testimony of experience, that somewhere in the world there must be some one with sufficient skill to fit them with the right glasses. The rapidity with which these patients respond to treatment by relaxation is often very dramatic, and affords a startling illustration of the superiority of this method to treatment by glasses and muscle-cutting. In the following case relaxation did in twenty-four hours what the old methods, as practiced by a succession of eminent specialists, could not do in twenty-five years.

The patient was a man of forty-nine, and his imperfect sight was accompanied by continual pain and misery, culminating twenty years before I saw him, in a complete nervous breakdown. As he was a writer, dependent upon his pen for a living, his condition was a serious economic handicap, and he consulted many specialists in the vain hope of obtaining relief. Glasses did little either to improve his sight, or to relieve his discomfort, and the eye specialists talked vaguely about disease of the optic nerve and brain as a possible cause of his troubles. The nerve specialists, however, were unable to do anything to relieve him. One specialist diagnosed his case as muscular, and gave him prisms, which helped him a little.

Later, the same specialist, finding that all of the apparent muscular trouble was not corrected by glasses, cut the external muscles of both eyes. This also brought some relief, but not much. At the age of twenty-nine the patient suffered the nervous breakdown already mentioned. For this he was treated unsuccessfully by various specialists, and for nine years he was compelled to live out of doors. This life, although it benefited him, failed to restore his health, and when he came to me on September 13, 1919, he was still suffering from neurasthenia. His distant vision was less than 20/40, and could not be improved by glasses. He was able to read with glasses, but could not do so without discomfort. I could find no symptom of disease of the brain or of the interior of the eye. When he tried to palm he saw grey and yellow instead of black; but he was able to rest his eyes simply by closing them, and by this means alone he became able, in twenty-four hours, to read diamond type and to make out most of the letters on the twenty line of the test card at twenty feet. At the same time his discomfort was materially relieved. He was under treatment for about six weeks, and on October 25 he wrote as follows:

"I saw you last on October 6, and at the end of the week, the 11th, I started off on a ten-day motor trip as one of the officials of the Cavalry Endurance Test for horses. The last touch of eyestrain which affected me nervously at all I experienced on the 8th and 9th. On the trip, though I averaged but five hours' sleep, rode all day in an open motor without goggles and wrote reports at night by bad lights, I had no trouble. After the third day the universal slow swing seemed to establish itself, and I have never had a moment's discomfort since. I stood fatigue and excitement better than I have ever

done, and went with less sleep. My practicing on the trip was necessarily somewhat curtailed, yet there was noticeable improvement in my vision. Since returning I have spent a couple of hours a day in practice, and have at the same time done a lot of writing.

"Yesterday, the 24th, I made a test with diamond type, and found that after twenty minutes' practice I could get the lines distinct, and make out the capital letters and bits of the text at a scant three inches. At seven I could read it readily, though I could not see it perfectly. This was by an average daylight—no sun. In a good daylight I can read the newspaper almost perfectly at a normal reading distance, say fifteen inches.

"I feel now that I am really out of the woods. I have done night work without suffering for it, a thing I have not done in twenty-five years, and I have worked steadily for more hours than I have been able to work at a time since my breakdown in 1899, all without sense of strain or nervous fatigue. You can imagine my gratitude to you. Not only for my own sake, but for yours, I shall leave no stone unturned to make the cure complete and get back the child eyes which seem perfectly possible in the light of the progress I have made in eight weeks."

SEEKING A MYOPIA CURE

In spite of the emphasis with which the medical profession denies the possibility of curing errors of refraction, there are many lay persons who refuse to believe that they are incurable. The author of the following statement represents a considerable class, and was remarkable only in the persistency with which he searched for relief. He was first seen on June 27, 1919, at which time he was thirty-two years of age. He was wearing

concave 2.50D.S. for each eye, and his vision in each eye was 20/100—. After he had obtained almost normal vision he wrote the following account of his experiences for "Better Eyesight":

"When the 'Lusitania' was sunk I knew that the United States was going to get into trouble, and I wanted to be in a position to join the Army. But I was suffering from a high degree of myopia, and I knew they wouldn't take me with glasses. Later on they took almost anyone who wasn't blind, but at that time I couldn't possibly have measured up to the standard. So I began to look about for a cure. I tried osteopathy, but didn't go very far with it. I asked the optician who had been fitting me with glasses for advice, but he said that myopia was incurable. I dismissed the matter for a time, but I didn't stop thinking about it. I am a farmer, and I knew from the experience of outdoor life that health is the normal condition of living beings. I knew that when health is lost it can often be regained. I knew that when I first tried to lift a barrel of apples onto a wagon I could not do so, but that after a little practice I became able to do it easily, and I did not see why, if one part of the body could be strengthened by exercise, others could not be strengthened also. I could remember a time when I was not myopic, and it seemed to me that if a normal eye could become myopic, it ought to be possible for a myopic eye to regain normality. After a while I went back to the optician and told him that I was convinced that there must be some cure for my condition. He replied that this was quite impossible, as everyone knew that myopia was incurable. The assurance with which he made this statement had an effect upon me quite the opposite of what he intended, for when he said that the cure of

myopia was impossible I knew that it was not, and I resolved never to give up the search for a cure until I found it. Shortly after I had the good fortune to hear of Dr. Bates, and lost no time in going to see him. At the first visit I was able, just by closing and resting my eyes, to improve my sight considerably for the Snellen test card, and after a few months of intermittent treatment I became able to read 20/10—in flashes. I am still improving, and when I can see a little better I mean to go back to that optician and tell him what I think of his ophthalmological learning."

FACTS VERSUS THEORIES

Reading fine print is commonly supposed to be an extremely dangerous practice, and reading print of any kind upon a moving vehicle is thought to be even worse. Looking away to the distance, however, and not seeing anything in particular is believed to be very beneficial to the eyes. In the light of these superstitions, the facts contained in the following letter are particularly interesting:

"On reaching home Monday morning I was surprised and pleased at the comments of my family regarding the appearance of my eyes. They all thought they looked so much brighter and rested, and that after two days of railroading. I didn't spare my eyes in the least on the way home. I read magazines and newspapers, looked at the scenery; in fact, used my eyes all the time. My sight for the near-point is splendid. Can read for hours without tiring my eyes. . . . I went downtown today and my eyes were very tired when I got home. The fine print on the card [diamond type] helps me so.. . . I would like to have your little Bible [a photographic re-

duction of the Bible with type much smaller than diamond]. I'm sure the very fine print has a soothing effect on one's eyes, regardless of what my previous ideas on the subject were."

It will be observed that the eyes of this patient were not tired by her two days' railroad journey, during which she read constantly; they were not tired by hours of reading after her return; they were rested by reading extremely fine print; but they were very much tired by a trip downtown during which they were not called upon to focus upon small objects. Later a leaf from the Bible was sent to her, and she wrote:

"The effect even of the first effort to read it was wonderful. If you will believe it, I haven't been troubled having my eyes feel 'crossed' since, and while my actual vision does not seem to be any better, my eyes feel a great deal better."

CURED WITHOUT PERSONAL ASSISTANCE

I am constantly hearing of patients who have been able to improve their sight by the aid of information contained in my publications, without personal assistance. The writer of the following letter, a physician, is a remarkable example of these cases, as he was able not only to cure himself, but to relieve some very serious cases of defective vision among his patients.

"I first tried central fixation on myself and had marvelous results. I threw away my glasses and can now see better than I have ever done. I read very fine type (smaller than newspaper type) at a distance of six inches from the eyes, and can run it out at full arm's length and still read it without blurring the type.

"I have instructed some of my patients in your

methods, and all are getting results. One case who has a partial cataract of the left eye could not see anything on the Snellen test card at twenty feet, and could see the letters only faintly at ten feet. Now she can read 20/10 with both eyes together, and also with each eye separately; but the left eye seems, as she says, to be looking through a little fog. I could cite many other cases that have been benefited by central fixation, but this one is the most interesting to me."

Better Eyesight

Questions and Answers

Question.—(1) Should a house be brightly lighted by a direct electric light or a reflected white light? (2) In many homes colored shades are used on the lights. Does that impair the sight? C. I. I.

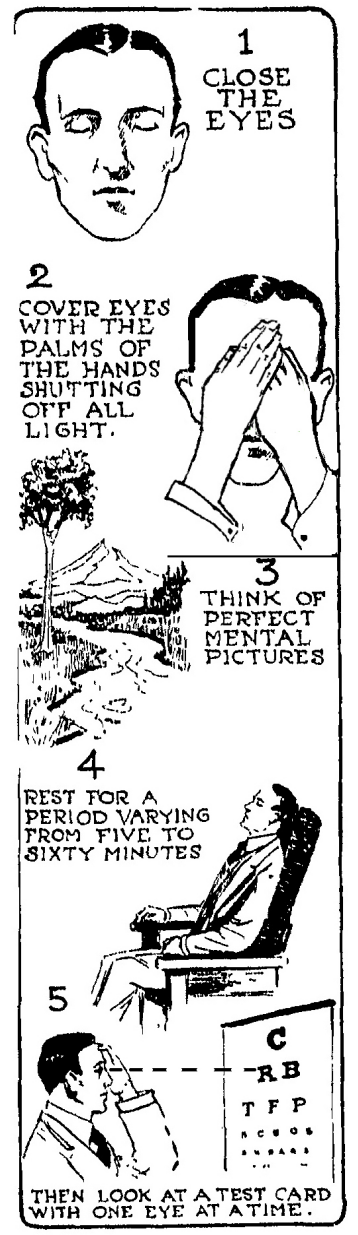
Answer.—(1) The more brightly the house is lighted the better for the sight. (2) Yes.

Question.—(1) Is it advisable to use specimens of diamond type other than the "Seven Truths of Normal sight?" Would it be well to get a New Testament in diamond type? (2) I have thus far found the flashing method the most helpful. However, after closing the eyes, I have difficulty in opening them. The lids seem to stick together, as it were. What is the cause of such stickiness and the remedy? (3) I was trying to read the "Seven Truths" lately by the flashing method, and for about twenty minutes obtained very little results. Then, of a sudden, upon closing my eyes, I saw the blackest object I have ever seen with closed eyes. I was startled, it seemed so real, and on opening my eyes I was surprised to find that I could read practically all of the "Seven Truths" clearly, at thirteen inches, without closing my eyes. I think the black object was probably the black rubber key of the electric socket in the fixture which I had unconsciously looked at from time to time during the exercise. I have not been able to do just this since. What is the probable reason for my failure? (4) I find I see any reading matter more clearly in a bright light—sunlight or electric light—than in a dim or less bright light. Why is this? (5) Today in trying to read the "Seven Truths" I found that I could do it at six or seven inches with few alternate closings of the eyes; but I found in accomplishing this I was partially closing my eyelids, so that I must have looked much like the Patagonians in Fig. I in Dr. Bates' book, said to be probably myopic when the picture was taken. I found that I could not keep my eyes thus partly closed without some strain, but I could not see the print clearly when they were wide open. Often the print would look quite blurred when I first looked at it, but it cleared perceptibly and became quite black as I continued to look. I also found myself reading today twenty pages of fairly small print at about eight or nine inches in much the same way. W. C. C.

Answer.—(1) Yes, if you wish to. The "Testament" would be a good thing to have. (2) Difficulty in closing or opening the eyes is a common symptom of strain, and may be relieved by any method that relieves strain. (3) Such intervals of relaxation are a very common phenomenon. They will come more frequently and last longer if you continue to practice. (4) In a bright light the contrast between black letters and their white background is more marked than in a dim light. Persons differ greatly, however, in the amount of light they require for maximum vision. Some people see better in a dim light, because they think that condition a favorable one. (5) It is a bad one.

The Bridgeport Telegram
March 9th, 1922

Curing Eyes without Glasses!



(Begin by looking at the chart with *both eyes together*. Then; one eye at a time. End with both eyes together.)

CHAPTER XXXII

REASON AND AUTHORITY

SOME one—perhaps it was Bacon—has said: "You cannot by reasoning correct a man of ill opinion which by reasoning he never acquired." He might have gone a step further and stated that neither by reasoning, nor by actual demonstration of the facts, can you convince some people that an opinion which they have accepted on authority is wrong.

A man whose name I do not care to mention, a professor of ophthalmology, and a writer of books well known in this country and in Europe, saw me perform the experiment illustrated on Page 40, an experiment which, according to others who witnessed it, demonstrates beyond any possibility of error that the lens is not a factor in accommodation. At each step of the operation he testified to the facts; yet at the conclusion he preferred to discredit the evidence of his senses rather than accept the only conclusion that these facts admitted.

First he examined the eye of the animal to be experimented upon, with the retinoscope, and found it normal, and the fact was written down. Then the eye was stimulated with electricity, and he testified that it accommodated. This was also written down. I now divided the superior oblique muscle, and the eye was again stimulated with electricity. The doctor observed the eye with the retinoscope when this was being done and said: "You failed to produce accommodation." This fact, too, was written down. The doctor now used the electrode himself, but again failed to observe accommodation, and

Experiment illustrated on Page 40
(Accommodation - Experiments on Animals)

these facts were written down. I now sewed the cut ends of the muscle together, and once more stimulated the eye with electricity. The doctor said, "Now you have succeeded in producing accommodation," and this was written down. I now asked:

"Do you think that superior oblique had anything to do with producing accommodation?"

"Certainly not," he replied.

"Why?" I asked.

"Well," he said, "I have only the testimony of the retinoscope; I am getting on in years, and I don't feel that confidence in my ability to use the retinoscope that I once had. I would rather you wouldn't quote me on this."

While the operation was in progress, however, he gave no indication whatever of doubting his ability to use the retinoscope. He was very positive, in fact, that I had failed to produce accommodation after the cutting of the oblique muscle, and his tone suggested that he considered the failure ignominious. It was only after he found himself in a logical trap, with no way out except by discrediting his own observations, that he appeared to have any doubts as to their value.

Patients whom I have cured of various errors of refraction have frequently returned to specialists who had prescribed glasses for them, and, by reading fine print and the Snellen test card with normal vision, have demonstrated the fact that they were cured, without in any way shaking the faith of these practitioners in the doctrine that such cures are impossible.

The patient with progressive myopia whose case was mentioned in Chapter XV returned after her cure to the specialist who had prescribed her glasses, and who had said not only that there was no hope of improvement, but

that the condition would probably progress until it ended in blindness, to tell him the good news which, as an old friend of her family, she felt he had a right to hear. But while he was unable to deny that her vision was, in fact, normal without glasses, he said it was impossible that she should have been cured of myopia, because myopia was incurable. How he reconciled this statement with his former patient's condition he was unable to make clear to her.

A lady with compound myopic astigmatism suffered from almost constant headaches which were very much worse when she took her glasses off. The theatre and the movies caused her so much discomfort that she feared to indulge in these recreations. She was told to take off her glasses and advised, among other things, to go to the movies; to look first at the corner of the screen, then off to the dark, then back to the screen a little nearer to the center, and so forth. She did so, and soon became able to look directly at the pictures without discomfort. After that nothing troubled her. One day she called on her former ophthalmological adviser, in the company of a friend who wanted to have her glasses changed, and told him of her cure. The facts seemed to make no impression on him whatever. He only laughed and said, "I guess Dr. Bates is more popular with you than I am."

Sometimes patients themselves, after they are cured, allow themselves to be convinced that it was impossible that such a thing could have happened, and go back to their glasses. This happened in the case of a patient already mentioned in the chapter on "Presbyopia," who was cured in fifteen minutes by the aid of his imagination. He was very grateful for a time, and then he began to talk to eye specialists whom he knew and straightway grew skeptical as to the value of what I had done for him.

One day I met him at the home of a mutual friend, and in the presence of a number of other people he accused me of having hypnotized him, adding that to hypnotize a patient without his knowledge or consent was to do him a grievous wrong. Some of the listeners protested that whether I had hypnotized him or not, I had not only done him no harm but had greatly benefited him, and he ought to forgive me. He was unable, however, to take this view of the matter. Later he called on a prominent eye specialist who told him that the presbyopia and astigmatism from which he had suffered were incurable, and that if he persisted in going without his glasses he might do himself great harm. The fact that his sight was perfect for the distance and the near-point without glasses had no effect upon the specialist, and the patient allowed himself to be frightened into disregarding it also. He went back to his glasses, and so far as I know has been wearing them ever since. The story obtained wide publicity, for the man had a large circle of friends and acquaintances; and if I had destroyed his sight I could scarcely have suffered more than I did for curing him.

Fifteen or twenty years ago the specialist mentioned in the foregoing story read a paper on cataract at a meeting of the ophthalmological section of the American Medical Association in Atlantic City, and asserted that anyone who said that cataract could be cured without the knife was a quack. At that time I was assistant surgeon at the New York Eye and Ear Infirmary, and it happened that I had been collecting statistics of the spontaneous cure of cataract at the request of the executive surgeon of this institution, Dr. Henry G. Noyes, Professor of Ophthalmology at the Bellevue Hospital Medical School. As a result of my inquiry, I had secured records of a large num-

ber of cases which had recovered, not only without the knife, but without any treatment at all. I also had records of cases which I had sent to Dr. James E. Kelly of New York and which he had cured, largely by hygienic methods. Dr. Kelly is not a quack, and at that time was Professor of Anatomy in the New York Post Graduate Medical School and Hospital and attending surgeon to a large city hospital. In the five minutes allotted to those who wished to discuss the paper, I was able to tell the audience enough about these cases to make them want to hear more. My time was, therefore, extended, first to half an hour and then to an hour. Later both Dr. Kelly and myself received many letters from men in different parts of the country who had tried his treatment with success. The man who wrote the paper had blundered, but he did not lose any prestige because of my attack, with facts upon his theories. He is still a prominent and honored ophthalmologist, and in his latest book he gives no hint of having ever heard of any successful method of treating cataract other than by operation. He was not convinced by my record of spontaneous cures, nor by Dr. Kelly's record of cures by treatment; and while a few men were sufficiently impressed to try the treatment recommended, and while they obtained satisfactory results, the facts made no impression upon the profession as a whole, and did not modify the teaching of the schools. That spontaneous cures of cataract do sometimes occur cannot be denied; but they are supposed to be very rare, and any one who suggests that the condition can be cured by treatment still exposes himself to the suspicion of being a quack.

Between 1886 and 1891 I was a lecturer at the Post-Graduate Hospital and Medical School. The head of the institution was Dr. D. B. St. John Roosa. He was the

author of many books, and was honored and respected by the whole medical profession. At the school they had got the habit of putting glasses on the nearsighted doctors, and I had got the habit of curing them without glasses. It was naturally annoying to a man who had put glasses on a student to have him appear at a lecture without them and say that Dr. Bates had cured him. Dr. Roosa found it particularly annoying, and the trouble reached a climax one evening at the annual banquet of the faculty when, in the presence of one hundred and fifty doctors, he suddenly poured out the vials of his wrath upon my head. He said that I was injuring the reputation of the Post Graduate by claiming to cure myopia. Every one knew that Donders said it was incurable, and I had no right to claim that I knew more than Donders. I reminded him that some of the men I had cured had been fitted with glasses by himself. He replied that if he had said they had myopia he had made a mistake. I suggested further investigation. "Fit some more doctors with glasses for myopia," I said, "and I will cure them. It is easy for you to examine them afterwards and see if the cure is genuine." This method did not appeal to him, however. He repeated that it was impossible to cure myopia, and to prove that it was impossible he expelled me from the Post Graduate, even the privilege of resignation being denied to me.

The fact is that, except in rare cases, man is not a reasoning being. He is dominated by authority, and when the facts are not in accord with the view imposed by authority, so much the worse for the facts. They may, and indeed must, win in the long run; but in the meantime the world gropes needlessly in darkness and endures much suffering that might have been avoided.

The Cure of Imperfect Sight

By Treatment Without Glasses

By W. H. BATES, M. D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that *all errors of refraction are functional and therefore curable.*

METHODS OF TREATMENT whereby such *cures have been effected in thousands of cases.* These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is also profusely illustrated with original photographs.

PRICE $5.00 POSTPAID
SENT ON APPROVAL

Central Fixation Publishing Company
300 Madison Avenue, New York City

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. IX | MAY, 1925 | No. 11

Fundamentals

Mental Pictures
By W. H. Bates, M.D.

Stories from the Clinic
No. 63: Mental Pictures
By Emily C. Lierman

Announcements

May Fairies
By George M. Guild

Glasses Retard Progress
By E. T. Fisher, M.S.M.D.

Report of the League Meeting
By Mabel A. Young, *Secretary*

Questions and Answers

$2.00 per year | 20 cents per copy | Back numbers 30 cents

Published by the CENTRAL FIXATION PUBLISHING COMPANY
383 MADISON AVENUE, NEW YORK, N. Y

Perfect Sight Without Glasses

By W. H. BATES, M.D.

Increased demand has enabled us to reduce the price from $5.00 to $3.00 per copy.

The book contains:

The principles and methods fundamental in the cure of imperfect sight by treatment without glasses.

METHODS OF TREATMENT

described in

Stories from the Clinic

By EMILY C. LIERMAN

This valuable book fully explains:

The author's application of Dr. Bates' method of treatment to each individual clinic case.

The symptoms and cure of imperfect sight by treatment without glasses, and how readers can benefit themselves.

"Stories from the Clinic" is a contribution to the practice of Ophthalmology
Reduced Price, $2.00

Both Books Now $5.00

Books of 15 reprints from Medical Journals by W. H. Bates, M. D., reduced from $1.50 to $1.00 or sold separately at 10c each.

List of reprints sent on request.

Large Snellen "C" cards reduced from 50c to 25c each. All others reduced from 75c to 50c. Fundamental cards, including Small "C," Fundamental, Black "E," Inverted "E" and Numeral Cards are available now. This is a handy pocket or vest size and no one should be without one. 10c each.

Central Fixation Publishing Company
383 *Madison Avenue, New York City*

Perfect Sight Without Glasses

By W. H. BATES, M.D.

Increased demand has enabled us to reduce the price from $5.00 to $3.00 per copy.

The book contains:

The principles and methods fundamental in the cure of imperfect sight by treatment without glasses.

REPRINTS

By W. H. BATES, M.D.

*1—The Prevention of Myopia in School Children	.10
2—A Case of Myopic Refraction Relieved by Eye Education	.10
3—A Study of Images Reflected from the Cornea, Iris and Sclera	.10
4—Memory as an Aid to Vision	.10
5—Shifting	.10
6—Improving the Sight of Soldiers and Sailors and Relieving Pain	.10
7—Blindness Relieved by a New Method	.10
8—Writers Cramp, Its Cause and Cure	.10
*9—The Cure of Defective Eyesight by Treatment Without Glasses	.10
10—A Clinical and Experimental Study of Physiological Optics	.10
11—Imagination and Vision	.10
12—The Imperfect Sight of the Normal Eye	.10
13—Throw Away Your Glasses	.10
14—A Study of Imagination	.10
15—A New Outlook	.10
*Especially adapted to children	$1.50

If the whole set is purchased the price will be $1.35

Central Fixation Publishing Company
383 Madison Avenue, New York City

PRESS OF THOS. B. BROOKS, INC., N.Y.

INDEX

Accommodation, 10, 26 (see also "Aphakia," "Myopia," "Presbyopia")
  Arlt on, 29
  Author on, 38, 54, 69
  Brücke on, 29
  Cohn on, 29
  Cramer on, 25
  Davis on, 33
  Descartes on, 24
  Donders on, 24, 29, 32, 38, 210, 211
  Duane on, 211
  Förster on, 32
  Fuchs on, 211
  von Graefe on, 32
  Helmholtz on, 24, 26, 32
  Hensen on, 29
  Holmes on, 212
  Huxley on, 29
  Jackson on, 211
  Kepler on, 23
  Landolt on, 26
  Langenbeck on, 24
  Loring on, 33
  Roosa on, 210
  Sanson on, 29
  Scheiner on, 24
  Tscherning on, 27
  de Schweinitz on, 36, 211
  Völckers on, 29
  Young on, 24, 30
Ainus, 16
Amblyopia, 111, 113 (see also "Squint")
Anisometropes, 256
Aphakia, 32, 47, 95, 96
Arlt, 29
  portrait, frontispiece
Armati, v, 81
Astigmatism, 12, 70, 149, 251
  prevention, 251, 265
  production, 12, 36, 39, 42, 43, 45, 89, 266, 282
  treatment, 229, 234, 273, 306 (see also "Refraction, errors of, treatment")
Atropine, 43, 48, 50, 69, 228, 234
Aviators, 287

Barrington, 256
Bell, 184
Brücke, 29

Camera, 13, 114, 149
Cataract, 89, 111, 214, 220
  treatment, 121, 134, 158, 272, 307
Central fixation, 114, 281
Christian Scientists, 209
Cohn, 29, 78, 251, 252, 253, 254
Colds, 208
Conjunctiva, 111, 118, 122
Cornea, 12, 36, 122 (see also "Images, on cornea")
Correspondence treatment, 246
Coughs, 208
Cramer, 25

Darkness, 189
Davis, 33
Descartes, 24
Donders, 23, 24, 25, 29, 32, 38, 210, 211, 222, 223
Dresslar, 190
Duane, 211, 225

Eccentric fixation (see "Central fixation")
Emmetropia, 11, 93
Eversbusch, 222, 252
Eye, 11, 13
  evolution of, 1
  muscles of, 38, 44
  retina of, 114
  unable to fix a point, 159

Fabre, 102
Face-rests, 253, 254
Faith Curists, 209
Förster, 32
Fovea, 114
Fox, 256
Fuchs, 211, 222, 225

Gislason, 227
Glasses, v, 8, 81, 181, 219
Glaucoma, 111, 220
  treatment, 121, 133, 208
Gould, 4
von Graefe, 32

Hansen-Grut, 222
Hay fever, 208
Helmholtz, 24, 26, 32, 36, 38
  portrait, 31
Hensen, 29
Holmes, 212
Home treatment, 242
Huxley, 29
Hypermetropia, 10, 222, 251, 266
  prevention, 251, 266
  production, 14, 39, 42, 53, 63, 65, 66, 75, 89, 266
  treatment, 229, 234, 273 (see also "Refraction, errors of, treatment")

Illusions,
  of imperfect sight, 148, 172, 219, 280, 282
  of normal sight, 138, 172, 180
Images, 24, 54
  on cornea, 24, 54, 59, 60, 64, 66, 68
  on iris, 59, 63, 65
  on lens (back of), 24, 54, 62, 67
  on lens (front of), 24, 54
  on sclera, 59, 62, 63, 64
Imagination, 148, 165, 217
Indians, 2, 15, 256
Insanity, 280
Iritis, 121, 122

Jackson, 211
Johnson, 37
Jupiter, moons of, 103, 121, 275
Just, 254

Kelly, 308
Kepler, 23

Lancaster, 83
Landolt, 23, 26, 86
Langenbeck, 24
Lawson, 255
Lens (see "Accommodation," "Cataract," "Images," "Presbyopia")
Light, 78, 123, 183, 253, 261
Loring, 33

Macaulay, 275
Macula, 114
Memory, 126, 136, 151, 202, 274
Military training, 284
Mind, 89, 106, 115, 148, 196, 274, 295 (see also "Memory")
Montessori, 106
Moros, 6
Morphine, 289
Motais, 256
Moving pictures, 108, 161, 192
Muscae volitantes, 176, 236
Muscle, ciliary, 11, 29, 75, 85, 211, 215 (see also "Atropine")
Muscles, external, 32, 37, 38, 89

Myopia, 8, 10, 222 (see also "Accommodation")
  Barrington on, 256
  Cohn on, 251, 252, 253, 254
  Donders on, 309
  Eversbusch on, 252
  Fox on, 256
  Just on, 254
  Lawson on, 255
  Motais on, 256
  Pearson on, 256
  prevention, 8, 39, 251, 259
  production, 2, 11, 14, 63, 65, 75, 89, 109, 257
  Risley on, 253
  Roosa on, 308
  Sidler-Huguenin on, 8, 82, 256
  Steiger on, 256
  treatment, 8, 82, 120, 141, 157, 158, 170, 251, 259, 271, 299 (see also "Refraction, errors of, treatment")
  Tscherning on, 252

Neuralgia, 207
Night blindness, 281, 283
Nystagmus, 117

Ophthalmology, 1, 214
Ophthalmometer, 34, 60, 66
Ophthalmoscope, 23, 117, 160
Optic nerve, 89, 108, 111, 112, 122, 127, 157
Optimums, 198

Pain, 133, 155, 202, 288
Palming, 123 (see also "Memory")
Paralysis, 131
Parsons, 184
Patagonians, 2
Pearson, 256
Pessimums, 198
Pigmies, 3
Polyopia, 112, 149, 174, 178, 179, 283
Presbyopia, 210
Pupil, 190, 214
Purkinje, 24, 25

Ray, 37
Reading, 192
Refraction, errors of (see also "Astigmatism," "Hypermetropia," "Myopia")
  cause, 1, 14, 89, 106 (see also "production")
  occurrence, 5, 75, 98, 251, 267, 285
  prevention, 1, 245, 285, 288
  production, 14, 38, 62, 75, 89, 106, 114
  treatment, 1, 101, 112, 118, 123, 136, 148, 159, 183, 242, 246, 259, 270, 274
Refraction, variability of, 10, 75, 85, 213, 215, 286, 287
Relaxation (see "Refraction, errors of, treatment")
Retina, 89, 109, 111, 114, 220
Retinoscope, 17, 110, 137
Rheumatism, 208
Risley, 253
Roosa, 210, 308
Rosenau, 4

Sanson, 29
Saturn, rings of, 121
Scheiner, 24
School-books, 192, 253
de Schweinitz, 36, 211
Sclera (see "Images, on sclera")
Scotomata, 177, 185, 186
Scott, 4
Sense, nerves of, 108
Shifting, 159
Sidler-Huguenin, 8, 82, 256
Snellen, 19
Snellen, jr., 69
Snellen test card, 19, 200, 242, 244, 268, 287
Soldiers and sailors, 5, 284
Squint, 112, 117, 118, 221, 227, 272
Steiger, 256
Stevens, 222

Carrying On Dr. Bates's Work.

To the Editor of The New York Times:

I wish to express my gratitude to R. R. A. for the fine tribute he paid my husband, William H. Bates, M. D., in his letter in THE NEW YORK TIMES of July 16. What he said was true. I myself have had the honor and the privilege of assisting the doctor in his research work during a period of six years at the Psysiological Laboratory of the College of Physicians and Surgeons in New York City, also working by his side for nine consecutive years at the clinic of the Harlem Hospital. I have also had the privilege of instructing students in his method of curing imperfect sight without the use of glasses. I am now going on with the work, which he left for me to do, in an educational way. There is a Bates Academy in Johannesburg, South Africa, where students of Dr. Bates are doing his work, and we have representatives in Germany, England, and in various cities throughout the United States.

EMILY A. BATES.

New York, July 16, 1931.

Strain, 89, 106, 115, 172, 178, 192, 257
Swinging, 159

Truth, 74
Tscherning, 27, 30, 252

Verhoeff, 184
Vision, defects of, 4, 264 (see also "Refraction, errors of, occurrence;" "Refraction, variability of")
limits of, 104, 121
military standards of, 5
Vision, primitive, 1, 2, 3, 6, 15, 16, 121, 267, 275
standard of normal, 19, 123
Visual centers, 108, 123
Völkers, 29

Webster, 35
Whooping cough, 208
Woinow, 33
Worth, 222, 223, 225

Young, Dr. A. G., 193
Young, Dr. Thomas, 24, 30
portrait, 28

Doctor William H. Bates—An Appreciation

by Dr. Daniel A. Poling

I never knew Doctor Bates when physically he was a well man. But even in the comparatively short time of our acquaintance and friendship I never knew him when he was not a true gentleman and a veritable genius in thinking thoughts and doing deeds for others. In his profession he was a distinguished pioneer; his discoveries should give him a place among the benefactors of the race. All about me and in my own home are those to whom he has ministered. To the ends of the earth are men, women, and little children who think of him with gratitude because of pain relieved and sight restored. His welcome to the Father's House will be in the words of the immortal paean—"Well done, good and faithful servant." By every test that I know, since I have known him, Doctor Bates was a Christian. One of his favorite texts was, "As a man thinketh in his heart so is he." The good Doctor had many and long thoughts of others and always his longest, tenderest thoughts were for Mrs. Emily A. Bates who has been his comrade in a great service.

With those who have the Christian's hope, weeping endures but for the night. We sorrow but not as those who are without the promise of glad reunion. Today we lift our eyes to the hills from whence cometh our strength—the hills of God's country where dreams come true, where unfinished tasks are completed and where life with love, enters fulfillment.

Signed Daniel A. Poling

William H. Bates, M. D., Pioneer Ophthalmologist.

From the 9th Print, 1940 Final Original Edition of 'Perfect Sight Without Glasses' by W. H. Bates, M.D., co-published by Emily A. Bates. Book preserved by Colleges and Library of Congress.

Famous Dr., Rev. Daniel A. Poling was Minister of the Marble Collegiate Church in New York City, 5th Ave. & West 29th Street where Dr. Bates and Emily, family attended. He was editor of the 'Christian Herald', had a radio program in New York City. A famous church; it's reverends include Dr. Norman Vincent Peale - author of 'The Power of Positive Thinking', 'The Positive Power of Jesus Christ', 'Positive Imaging', 'Treasury of Courage and Confidence'. Many famous ministers, natural healers. Dr. Bates and Emily Lierman were married in the Marble Collegiate Church, 1928.

After Dr. Bates passed away in 1931, unfriendly obituary type letters were written in the newspapers and magazines by people who wanted to hide Dr. Bates method so they could continue selling eyeglasses, eye surgery and drugs. They were very cruel to him and his wife Emily, entire family. They posted false statements about Dr. Bates Natural Eyesight method, his work, mind, reason he traveled, life experiences. Only a few newspaper... writers were honest, wrote the truth.

Reverend Daniel A. Poling and other honest, kind people, doctor's truthful letters to the newspapers, Dr. Bates family were very much appreciated.

To this day corrupt eye doctors and phony-high priced vision teachers post lies about Dr. Bates in their vision and optometry... books and gang together on Wikipedia and other websites, forums blocking links to Dr. Bates free books, magazines, preventing the public from speaking the truth about the Bates Method. They hide Dr. Bates free, true natural vision method from the public.

DEFINITIONS

NORMAL VISION is perfect sight at all distances. The Snellen test card is the standard for testing the vision. When the ten foot line of the card can be read at ten feet or further, and fine print can be read at six inches or less, one has normal vision.

MYOPIA or NEAR-SIGHTEDNESS: The vision for near objects is good, while the distant vision is imperfect.

HYPERMETROPIA or FAR-SIGHTEDNESS: The sight is not so good at a near point as it is for more distant objects.

PRESBYOPIA or OLD AGE SIGHT: The vision is imperfect when the patient tries to read fine print at a near point. The distant vision may or may not be good.

ASTIGMATISM is an imperfect curvature of the eye. Usually the front part of the eye has one curve which is different from all the other curves.

CATARACT is an opacity of the lens in the pupil, which interferes with good vision.

RETINITIS PIGMENTOSA is a disease of the interior of the eye, accompanied by the formation of black pigment spots.

FLOATING SPECKS are not real, they are imagined.

IRITIS is an inflammation of the iris, or the colored part of the eye.

CHALAZION TUMOR is a swelling of one of the glands of the eyelids.

MEMORY, or IMAGINATION, is the ability to see or recall letters, or other objects, when the eyes are closed, as well as they can be seen with the eyes open.

The SNELLEN TEST CARD has letters or other objects printed in varying sizes. The smallest letter or picture seen clearly on the card is a measure of the vision.

POT HOOKS is the name used for test cards which have a letter "E" printed with the opening pointing up or down, in or out. The test letter is made of different sizes similar to other Snellen test cards. It is usually employed to test the vision of children or adults who do not know the alphabet. The smallest "E" which the patient recognizes "pointing" in the true direction, measures the amount of sight.

DIAMOND TYPE is one of the smallest types used in printing and helps to improve the vision if it is read every day.

For previous page-Floating Specks;

Read about the clergyman in Better Eyesight Magazine, Oct., 1919 Issue; Many eye, medical doctors scared him, told him he had a physical disease or mental problem, will lose his eyesight because he saw floating specks. He then went to Dr. Bates. Dr. Bates found his eyes, body and mind in perfect health. It took a few office visits to convince him.

Always check with your eye doctor, get an eye and medical exam to be safe. Then, avoid worrying about the floaters. Worry-looking for the floaters causes strain and can make them appear. Relaxation makes them disappear;

Floaters are usually harmless and disappear with practice of The Bates Method. Their main cause is unclear vision, wearing eyeglasses, strain-tension in the mind, eyes, eye muscles, neck, lack of relaxation, lack of normal eye shifting with central-fixation. A relaxed mind-brain, sunlight, relaxed use of the vision (shifting, central-fixation 'central, fovea vision'...) can shut off the appearance of floating specks immediately. In a way, as Dr. Bates states; they often *are* an illusion caused by strain. Mental strain, straining the eyes and body. Negative thoughts, emotions.

Floating specks can be debris in the eyes vitreous from dead cells. Poor diet, drugs, sinus sprays, some eye drops, eye medicine, head, neck, eye injury and other conditions cause different types of floating specks. Check with an eye doctor if you see any type of floating specks. Warning; A *sudden shower of many specks, dimness of vision, flashes of light and the appearance of sparks, dust or soot before the eyes, field of vision becomes less and there may be the appearance of a cloud or floating specks before the eye, eyes, seeing only a part of an object at a time* can signal a retina condition; detached or injured blood vessel... Beware of *flashing colored, blue... or white lights*. (Some lights can also be a harmless migraine headache with other symptoms; moving zig- zagging lights, temporary blind spots, disrupted memory, speech ...)

Chemicals, parabens... in skin creams, plastics, soap, shampoo, hair dye, toothpaste, aspirin 'salicylate, acetylsalicylic acid' and other substances, hormone changes, HRT, including natural hormone creams, herbs, plastic food-water containers, chemicals, MSG, autolyzed yeast, soy, corn... extract-protein, soy, nitrites, sulfites... in food can cause migraines. Sometimes just eating soy or other foods containing estrogen can cause migraines, or; they occur when you stop the soy and the body is trying to go back to normal, withdrawing from the estrogen. (The herb Feverfew, 1/4 capsule can prevent and stop migraines, but it has side effects for some people; stiff joints, easily torn muscles, thins the blood...)

Spots of light can also occur from neck, shoulder, collarbone and head muscle tension, (which can also cause eye muscle tension), incorrect posture, effect of staring, long hours at the computer, repetitive work with the hands, pressure on nerves from tight muscles, clicking the mouse all day. Pain, tension can travel into the head, face, eyes, eye muscles. Pain in the ears can be neck or jaw joint, muscle tension. Eyeglasses are a main cause of floating specks and lights; they cause mental strain and neck, eye muscle tension. The tight muscles press on the eye, altering its shape, increases its pressure.

Many people have floating specks that occur then disappear on their own. They can be seen when looking at the bright blue sky, white clouds or a light colored surface. Fasting, a cleansing diet, quitting caffeine, drugs can cause more floaters to appear before the fast, diet completely clears the body and the floaters out of the eyes. Improving health of the kidneys, spleen, liver, digestion, deep relaxed breathing, blood, oxygen, lymph circulation to/in the body, head and eyes, with a good diet and exercise helps remove floaters and improves vision. Drink water! Neck relaxation improves circulation to the head, eyes. Read fine print to improve circulation in the eyes, movement, health of the eye, lens and ciliary muscle-body.

Case Reports

Recently a man, aged sixty years, was treated by me for the relief of eye troubles, caused by one-quarter of a diopter of astigmatism. He suffered intensely from strong light and complained of floating specks. He was not able to read fine print with or without glasses for any length of time without pain and fatigue. It seemed very strange that he should suffer so much from so low a degree of astigmatism. His distant vision was almost normal, while his ability to read was only slightly impaired by the pain. When his astigmatism was corrected by treatment, his vision, with each eye, for distance improved until it became normal, and the floating specks disappeared. After practicing the swing and improving his vision for the Snellen test card, the fatigue which he had felt when working and reading was also lessened. He no longer suffered from discomfort in the strong light of the sun, after he had received the sun treatment with the sun-glass.

Dr. Bates cured this patient;

She complained of floating specks which at times seemed to her like miniature airplanes or tiny round white circles with gray centers. She boasted about being able to multiply these imaginary things floating before her eyes and to see them just as clearly with her eyes closed as she could with them open. It is hard to even imagine how terribly she strained in order to bring about such a condition.

She told me that previous to her coming to me she had visited an eye specialist who examined her eyes thoroughly and who told her that he could see no condition of her eyes that would cause floating specks, and that the retinas of her eyes were perfectly clear.

Dr. Bates examined the clergy man's eyes many times, he kept coming back. There was nothing wrong with his eyes, his health was perfect.

I did not know as much about muscae volitantes then as I know now, or I might have saved both of these patients a great deal of uneasiness. I could tell them that their eyes were normal, but I did not know how to relieve them of the symptom, which is simply an illusion resulting from mental strain. The specks are associated to a considerable extent with markedly imperfect eyesight, because persons whose eyesight is imperfect always strain to see; but persons whose eyesight is ordinarily normal may see them at times, because no eye has normal sight all the time. Most people can see muscae volitantes when they look at the sun, or any uniformly bright surface, like a sheet of white paper upon which the sun is shining. This is because most people strain when they look at surfaces of this kind. The specks are never seen, in short, except when the eyes and mind are under a strain, and they always disappear when the strain is relieved. If one can remember a small letter on the Snellen test card by central fixation, the specks will immediately disappear, or cease to move; but if one tries to remember two or more letters equally well at one time, they will reappear and move. Usually the strain that causes muscae volitantes is very easily relieved. Sunlight exposure, sunning the eyes removes strain felt when looking at reflective surfaces. floaters disappear.

Emily C. Lierman

Emily C. Lierman, Bates

Picture on the Right >

Note from Emily A. Bates inside the cover of her book; *Stories From The Clinic.* Gifted to friends in 1946. Dr. Bates and Emily married in 1928. She was assistant in his New York City Clinic, offices for many years and wrote articles in his *Better Eyesight Magazine.* 1st story in Feb. 1920.

PREFACE

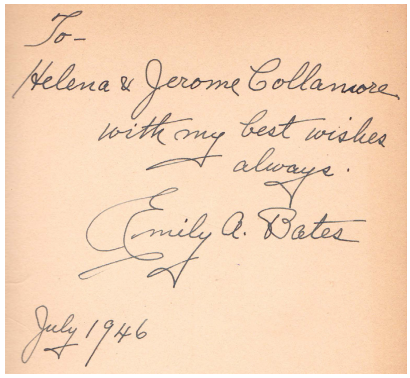
The articles comprising this book were first published in the monthly magazine "Better Eyesight" during a period of five years.

Various eye defects are described in simple and intelligible language, so that those who are interested may follow the practical instructions and improve their own vision, or that of others.

The stories are drawn from my clinical experience in the cure of imperfect sight by treatment without glasses. I have been Dr. Bates' assistant for eleven years, and they were years of a great education in the knowledge of the eye, in health, and in disease.

To Dr. W. H. Bates, the discoverer of the method, I am indebted for his encouragement and help.

EMILY C. LIERMAN.



PRESS OF THOS. B. BROOKS, INC.
NEW YORK

STORIES FROM THE CLINIC

By

EMILY C. LIERMAN

TO THE CHILDREN OF THE CLINIC
AND TO
W. H. BATES, M.D.,
THIS BOOK IS DEDICATED

CENTRAL FIXATION PUBLISHING CO.
NEW YORK CITY

Copyright, 1926, By EMILY C. LIERMAN

Stories from the Clinic

By EMILY C. LIERMAN

This valuable book fully describes:

The author's experiences in treating clinic patients.

Her application of Dr. Bates' method of treatment to each individual case.

The symptoms and cure of imperfect sight by treatment without glasses.

How readers can benefit themselves.

A CONTRIBUTION TO THE PRACTICE OF OPHTHALMOLOGY

Price $2.75

Can be purchased at

Central Fixation Publishing Company
383 Madison Avenue, New York City

Emily's book is included in the PDF E-Book

INTRODUCTION

I feel honored in being asked to write an introduction to this excellent book, "Stories from the Clinic," by Emily C. Lierman.

The stories have come directly from Mrs. Lierman's experience, and consequently are of intrinsic value. The patients, their symptoms of imperfect sight, and the treatment are all described in language which is so clear that anyone can understand.

For more than nine years Mrs. Lierman was my assistant in the out-patient department of the Harlem Hospital. She showed a great deal of understanding in treating the patients, adapting my method to each individual case. The cures she obtained were of the greatest value. She was particularly interested in the school children, and was so kind and patient with them that they all loved her. Her cures of imperfect sight without glasses were numerous. The way she treated the patients and the results obtained were a contribution to the practice of ophthalmology. For example, an old lady with absolute glaucoma in one eye, totally blind with no perception of light, visited the clinic to obtain relief from an agony of pain. Many doctors had previously advised the removal of one or both eyes, which has been for many years considered by regular physicians to be good practice. It has also been taught that no operation or treatment can cure the blindness resulting from absolute glaucoma. Mrs. Lierman was told that it was a hopeless case, but was asked to try to relieve the pain. She immediately treated

the woman, and much to my surprise not only relieved the pain, but also improved the eye until the patient became able to see at the distance, and to read fine print without glasses.

Of course, her work attracted attention and criticism. A prominent physician was sent one day to investigate. We told him the facts and a number of patients were treated for his benefit. He was very much interested in an elderly colored woman with cataract. This patient became able to read diamond type from six to fourteen inches from her eyes without glasses. The doctor, himself, was wearing glasses for distant vision and a stronger pair for reading. Mrs. Lierman treated him, also, with much benefit. From his personal experience and from his observation of the treatment of the patients by Mrs. Lierman, he was convinced that the method was one of great value. He had been sent to condemn, and remained to praise.

W. H. BATES, M.D.

WILLIAM H. BATES, M.D.
Ophthalmologist and Discoverer of the Cure of Imperfect Sight by Treatment Without Glasses

STORIES FROM THE CLINIC

CHAPTER I

EXPERIENCES WITH SCHOOL CHILDREN

TOPSY

THE patients who come to our clinic do wonderful things, especially the school children. We can give each one of them, as a rule, only about five minutes of our time, and yet they are able to carry out their instructions at home, and to get results. This is a great tribute to their patience and intelligence.

Most of the children and adults are helped by palming, and remarkable cures have been obtained by this means alone. A little lad had been so injured in an automobile accident that he had only light perception in his left eye. It was some time before I could get him to palm regularly, but as soon as he became willing to do so many times a day, his sight began to improve rapidly, and he is now completely cured.

FOR SALE

A Text Book

STORIES FROM THE CLINIC

BY

MRS. W. H. BATES
(the former Emily C. Lierman)

EXPERIENCES OF THE AUTHOR IN BENEFITING PATIENTS AT THE CLINIC

Price $2.00

A

Fundamentals of Treatment

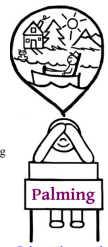
BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

June, 1921

HOW TO DEMONSTRATE THE FUNDAMENTAL PRINCIPLE OF TREATMENT

By W. H. Bates, M. D.



Palm and remember, imagine a pleasant object, scenery and shift throughout the scene; from object to object, part to part on objects. See objects in motion, action like a real life movie in the mind, in color, clear. Relax.

The object of all the methods used in the treatment of imperfect sight without glasses is to secure rest or relaxation, of the mind first and then of the eyes. Rest always improves the vision. Effort always lowers it. Persons who wish to improve their vision should begin by demonstrating these facts.

+ Close the eyes and keep them closed for fifteen minutes. Think of nothing particular, or think of something pleasant. When the eyes are opened, it will usually be found that the vision has improved temporarily. If it has not, it will be because, while the eyes were closed, the mind was not at rest.

+ One symptom of strain is a twitching of the eyelids which can be seen by an observer and felt by the patient with the fingers. This can usually be corrected if the period of rest is long enough. Relaxation of the neck, shoulders helps. No chiropractic, it has caused many injuries, including stroke. See the warning in the E-book. Use safe, natural massage on the muscles, good posture and movement.

+ Many persons fail to secure a temporary improvement of vision by closing their eyes because they do not keep them closed long enough. Children will seldom do this unless a grown person stands by and encourages them. Many adults also require supervision.

+ To Experience, demonstrate that strain lowers the vision; think of something disagreeable-some physical discomfort, or something seen imperfectly. When the eyes are opened, it will be found that the vision has been lowered. Next; close the eyes and think something pleasant, happy. Open the eyes and notice clear or improved vision. Also, stare at one part of a letter on the test card, or try to see the whole letter all alike at one time. This invariably lowers the vision and may cause the letter to disappear. Staring, eye immobility cause strain, blurred vision. Shift, move the eyes, 'visual attention' from part to part on the letter and from letter to letter on the test card and experience relaxation, clear vision.

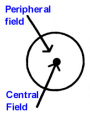
FUNDAMENTALS OF TREATMENT

ALL errors of refraction and many other eye troubles are cured by rest; but there are many ways of obtaining this rest, and all patients cannot do it in the same way. Sometimes a long succession of patients are helped by the same method, and then will come one who does not respond to it at all.

+Closing, Resting the Eyes.—The simplest way to rest the eyes is to close them for a longer or shorter period and think about something agreeable. This is always the first thing that I tell patients to do, and there are very few who are not benefited by it temporarily.

+Palming.—A still greater degree of rest can be obtained by closing and covering the eyes so as to exclude all the light. Both eyes are closed and then cover the eyes with the palms of the left and right hands with the fingers crossing over the center of the forehead. The mere exclusion of the impressions of sight is often sufficient to produce a large measure of relaxation. Palm gently, no pressure on the eyes.

In other cases the strain is increased. As a rule, successful palming involves a knowledge of various other means of obtaining relaxation. The mere covering and closing of the eyes is useless unless at the same time mental rest is obtained. When a patient palms perfectly, he sees a field so black that it is impossible to remember, imagine, or see, anything blacker, and when able to do this he is cured. It should be borne in mind, however, that the patient's judgment of what is a perfect black is not to be depended upon. While palming; imagining a happy, pleasant scenery, objects, color, positive thoughts can produce relaxation. Seeing black is not mandatory.



The center of the visual field is clearest. The peripheral field is less clear. This is normal vision.

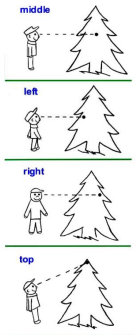
+Central Fixation.—When the vision is normal the eye sees one part of everything it looks at best and every other part worse in proportion as it is removed from the point of maximum (central, macula/fovea) vision. When the vision is imperfect it is invariably found that the eye is trying to see a considerable part of its field of vision equally well at one time. This is a great strain upon the eye and mind, as anyone whose sight is approximately normal can demonstrate by trying to see an appreciable area all alike at one time. At the near-point the attempt to see an

B

area even a quarter of an inch in diameter in this way will produce discomfort and pain. This is why the eye must shift. Shift from small part to small part on an object for relaxation and clear vision. Anything which rests the eye tends to restore the normal power of central fixation. It can also be regained by conscious practice, and this is sometimes the quickest and easiest way to improve the sight. When the patient becomes conscious that he sees one part of his field of vision better than the rest, it usually becomes possible for him to reduce the area seen best. If he looks from the bottom of the 200 letter (Big C on the eyechart) to the top, for instance, and sees the part not directly regarded worse than the part fixed, he may become able to do the same with the next line of letters, and thus he may become able to go down the card until he can look from the top to the bottom of the letters on the bottom line and see the part not directly regarded worse. (The part directly regarded is in the central field and is seen best.) In that case he will be able to read the letters. Try this on the dots on the letter E; look at the dot on the top of the E. The central field (eyes fovea) is moving on that dot and it is seen clearest. Next; look at the dot on the bottom. The eyes central field (eyes fovea) is now moving on that dot and it is seen clearest. On the principle that a burnt child dreads the fire, it is a great help to most patients to consciously increase the degree of their eccentric fixation. For when they have produced discomfort or pain by consciously trying to see a large letter, or a whole line of letters, all alike at one time, they unconsciously try to avoid the lower degree of eccentric fixation which has become habitual to them. They then experience central-fixation. Most patients, when they become able to reduce the area of their field of maximum vision, are conscious of a feeling of great relief in the eyes and head and even in the whole body. Shift=move that small area (central field, which is actually the central point) part to part on objects. Practice shifting dot to dot on the pictures.

Look at the dot on the top of the E. The dot is in the center of the visual field and is clearest. The dot on the bottom is in the peripheral field and is less clear. Shift dot to dot seeing one dot clearest at a time.

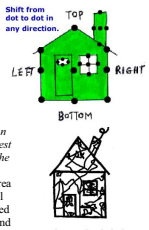
Face the object you want to see. Move the eyes, central field from part to part on the object. The man faces the part of the object he wants to see, then moves the eyes visual attention from part to part on that area. Blink, relax.



Since small objects cannot be seen without central fixation, the reading of fine print, when it can be done, (with relaxation, without effort, no squinting, strain) is one of the best of visual exercises, and the dimmer the light in which it can be read without effort and the closer to the eye it can be held the better. Reading fine print can prevent, cure cataracts, presbyopia, myopia.

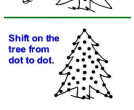
(Practice reading fine print in the sunlight for healthy eyes, increased clarity. No eyeglasses, no sunglasses.)

+Shifting and Swinging.—The eye with normal vision never regards a point for more than a fraction of a second, but shifts rapidly from one part of its field to another, thus producing a slight apparent movement, or *swing*, of all objects regarded. The eye with imperfect sight always tries to hold its points of fixation, just as it tries to see with maximum vision a larger area than nature intended it to see. *(The word field in the above paragraph pertains to the scenery, objects in your environment the eyes see. The eyes entire visual field, central and peripheral moves with the eyes; the eyes moving the small central field from object to object and part to part on objects in the scenery. The eyes use the central field to see best, clearest because the eyes fovea centralis with its many cones in the center of the macula produces the clearest vision in the central field = Central-Fixation.)* The bad habit of holding a point or trying to see a larger area than nature intended, (trying to see all objects in the scenery and/or all parts of a object at the same moment, without shifting) can be corrected by consciously imitating the unconscious shifting of the normal eye and realizing the swing produced by this movement. At first a very long shift may be necessary, as from one end of a line of letters to another, in order to produce a swing; but sometimes even this is not sufficient. In such cases patients are asked to hold one hand before the face while moving the head and eyes rapidly from side to side, when they seldom fail to observe an apparent movement of the hand. Some patients are under such a strain, however, that it may be weeks before they are able to do this. After the apparent movement of the hand has been observed, patients become able to realize the swing resulting from slighter movements of the eye until they are able to look from one side to another of a letter of diamond type and observe that it seems to move in a direction contrary to the movement of the eye. A mental picture of a letter can be observed to swing precisely as can a letter on the test card and, as a rule, mental shifting and swinging are easier at first than visual. The realization of the visual swing can, therefore, be cultivated by the aid of the mental swing. It is also an advantage to have the patient try to look continually at some letter, or part of a letter, and note that it quickly becomes blurred or disappears. (Staring, not



Shift from dot to dot in any direction.

THE DIAGRAM ABOVE SHOWS A EXAMPLE OF THE NATURAL SHIFTING PATTERN OF THE EYES. NOTICE THE EYES MOVE FREELY ON THE HOUSE IN A VARIETY OF PATTERNS, DIRECTIONS.



Shift on the tree from dot to dot.

The Variable Swing

Place the finger in front of the face. Move the head-eyes left and right and see the finger/hand move in the opposite direction.

C

shifting.) When he thus demonstrates that staring lowers the vision he becomes better able to avoid it. When visual or mental swinging is successful, everything one thinks of appears to have a slight swing. This I have called the *universal swing*. Most patients get the universal swing very easily. Others have great difficulty. The latter class is hard to cure.

Practice shifting dot to dot (part to part) on the pictures. Then practice on any pictures and real objects. *Do not imagine dots on pictures, objects. The pictures with dots in this book are only for practice, to learn shifting, central-fixation.*

BETTER EYESIGHT

MAY, 1926

Demonstrate - Swinging

THAT the **long swing** not only improves the vision, but also relieves or cures pain, discomfort and fatigue. Stand with the feet about one foot apart, facing squarely one side of the room. Lift the left heel a short distance from the floor while turning the shoulders, head, and eyes (entire body) to the right, until the line of the shoulders is parallel with the wall. Now turn the body (shoulders, head, eyes) to the left, after placing the left heel upon the floor and raising the right heel. Alternate looking, turning (swinging) from the right wall to the left wall, being careful to move the head and eyes with the movement of the shoulders. When the swing is practiced easily, continuously, without effort and without paying any attention to moving objects, one soon becomes conscious that the long swing relaxes the tension of the muscles and nerves. It relaxes the body, eyes, mind, neck, improves eye movement, improves movement alignment of the bones in the spine, neck. When doing the long swing, stationary objects move with varying degrees of rapidity. Objects located almost directly in front of you, closest to you appear to move with express train speed, moving past you in the opposite direction and should be very much blurred. It is very important to make no attempt to see clearly objects which seem to be moving very rapidly. Don't stop the swing, don't lock the eyes, visual attention onto the objects. Just relax, swing and let the objects swing by.

The long swing seems to be very helpful to patients who suffer from eyestrain during sleep. By practicing the long swing fifty times or more just before retiring and just after rising in the morning, eyestrain during sleep has been prevented or relieved. It is remarkable how quickly the long swing relieves or prevents pain. I know of no other procedure which can compare with it. The long swing has relieved the pain of facial neuralgia after operative measures had failed. Some patients who have suffered from continuous pain in various parts of the body have been relieved by the long swing, at first temporarily, but by repetition the relief has become more permanent. Hay fever, asthma, sea-sickness, palpitation of the heart, coughs, acute and chronic colds are all promptly cured by the long swing.

With practice; a shorter swing can be done; the shorter the swing, the more the improvement in the clarity of vision will be. See the Sway for examples of a short swing; move side to side, left and right without turning left and right. See picture. >
Just look forward and sway 1 foot, then 6 inches, then 2, 1 inches, then try ½ inch and see a small swing. Shift left and right on a small letter on the eyechart, then a fine print letter for a tiny shift, seeing a tiny swing. Relax, blink.

Memory - When the sight is normal the mind is always perfectly at rest, and when the memory is perfect the mind is also at rest. Therefore it is possible to improve the sight by the use of the memory. Anything the patient finds is agreeable to remember is a rest to the mind, but for purposes of practice a small black object, such as a period or a letter of fine diamond type, **(E, O)** is usually most convenient. The most favorable condition for the exercise of the memory is, usually, with the eyes closed and covered, but by practice it becomes possible to remember equally well with the eyes open.

When patients are able, with their eyes closed and covered, to remember perfectly a letter of diamond type, it appears, just as it would if they were looking at it with the bodily eyes, to have a slight movement, (due to the shift of the eyes when open or closed) while the openings appear whiter than the rest of the background. If they are not able to remember it, they are told to shift consciously from one side of the letter to another and to consciously imagine the opening whiter than the rest of the background. When they do this, the letter usually appears to move in a direction contrary to that of the imagined movement of the eye, and they are able to remember it indefinitely. (Notice when imagining shifting on a letter with the eyes closed-the eyes move as if shifting on the letter with the eyes open.)

If, on the contrary, they try to fix the attention on one part of the letter, or to think of two or more parts at one time, it soon disappears, demonstrating that it is impossible to think of one point continuously, or to think of two or more points perfectly at one time, just as it is impossible to look at a point continuously, or to see two points perfectly at the same time. Persons with no visual memory are always under a great strain and often suffer from pain and fatigue with no apparent cause. As soon as they become able to form mental pictures, either with the eyes closed or open, their pain and fatigue are relieved.

D

Imagination - Imagination is closely allied to memory, for we can imagine only as well as we remember, and in the treatment of imperfect sight the two can scarcely be separated. Vision is largely a matter of imagination and memory. And since both imagination and memory are impossible without perfect relaxation, the cultivation of these faculties not only improves the interpretation of the pictures on the retina but improves the pictures themselves. When you imagine that you see a letter on the test card, you actually do see it because it is impossible to relax and imagine the letter perfectly and, at the same time, strain and see it imperfectly. The following method of using the imagination has produced quick results in many cases:

The patient is asked to look at the largest letter on the test card at the near point, and is usually able to observe that a small area, about a square inch, appears blacker than the rest, and that when the part of the letter seen worst is covered, part of the exposed area seems blacker than the remainder. When the part seen worst is again covered, the area at maximum blackness is still further reduced. When the part seen best has been reduced to about the size of a letter on the bottom line, the patient is asked to imagine that such a letter occupies this area and is blacker than the rest of the letter. Then he is asked to look at a letter on the bottom line and imagine that it is blacker than the largest letter. Many are able to do this and at once become able to see the letters on the bottom line.

Flashing - Since it is effort that spoils the sight, many persons with imperfect sight are able, after a period of rest, to look at an object for a fraction of a second. If the eyes are closed before the habit of strain reasserts itself, permanent relaxation is sometimes very quickly obtained. This practice I have called *flashing*, and many persons are helped by it who are unable to improve their sight by other means. The eyes are rested for a few minutes, by closing or palming, and then a letter on the test card, or a letter of fine diamond type, if the trouble is with near vision, is regarded for a fraction of a second. Then the eyes are immediately closed and the process repeated.

Better Eyesight Magazine

September, 1923

Blinking - It is a rest to the eyes to close them and keep them closed for a few minutes or a half hour or longer. When the eyes are open the vision is usually improved for a moment or longer. The normal eye can look at a small letter of the Snellen Test Card and see it continuously but when it does so the letter is always moving and the eyes are not kept open all the time. Closing the eyes effectually dodges perfect or imperfect sight. Usually unconsciously the normal eye closes and opens quite frequently and at irregular intervals and for very short spaces of time. Most people can demonstrate that when they regard a letter that they are able to see quite clearly it is possible for them to consciously close their eyes and open them quick enough and see the letter continuously. This is called Blinking and it is only another name for dodging. Dodging what? Dodging the tendency to look steadily at things all the time. All the methods which have been recommended for the improvement of the vision, central fixation, palming, swinging, blinking shifting can all be grouped under the one word—dodging. One of the characters in "Oliver Twist," by Charles Dickens, was called the "Artful Dodger." Persons with good sight may not be artful but they certainly are good dodgers.

The normal eye when it has normal sight, blinks quite frequently. By blinking is meant closing the eyelids and opening them so quickly that neither the patient nor his observers notice the fact. The moving pictures have shown that in some cases the eyes were closed and opened five times in one second. This is done unconsciously and is rather more than I can do consciously. Blinking is necessary in order to maintain normal vision continuously, because if one consciously prevents blinking the vision for distance or the ability to read fine print are modified. It is interesting to me how blinking, which is so necessary for good vision, has been so universally ignored by the writers of books on diseases of the eyes. Blinking is a rest, it prevents fatigue, and very important, it improves the sight in myopia, and helps to maintain good vision more continuously.

Blinking causes the eyes to shift automatically. Shifting keeps the eyes relaxed, in movement, the eyesight clear.

Reading Familiar Letters - The eye always strains to see unfamiliar objects, and is always relaxed to a greater or lesser degree by looking at familiar objects. Therefore, the reading every day of small familiar letters at the greatest distance at which they can be seen, is a rest to the eyes and is sufficient to cure children under twelve who have not worn glasses as well as some older children and adults with minor defects of vision.

In the treatment of imperfect sight these fundamental principles are to a great extent interdependent. They cannot be separated as in this article. It is impossible, for instance, to produce the illusion of a swing unless one possesses a certain degree of central fixation. That is, one must be able to shift from one point to another and see the point shifted from less distinctly than the one directly regarded. Successful palming is impossible without mental shifting and swinging and the use of the memory and imagination.

Dr. Bates taught Two Ways to learn Central Fixation;

 # 1 - Noticing the point, 'part of the object' not directly regarded is seen worse, less clear. The point not regarded is in the peripheral field. While doing this the eyes are on the part in the central field but the mental, visual attention is also on the part not directly regarded in the peripheral field. This is not done all the time, it's not regular use of the eyes. It's only a short practice to notice which area is less clear.

E

 # 2 - Noticing the point 'part of the object' directly regarded is seen best, clearest. The point directly regarded is in the central field. The person's eyes, mental and visual attention is on the part in the central field. As eyesight improves the central field is perfectly clear.

When the eyesight is very unclear, often the peripheral field, though unclear is clearest. The central field is unclear and less clear than the peripheral. This is abnormal eye, vision function and leads to increased blur. Returning best clarity to the central field is normal eye function and brings perfect clear eyesight.
When the eyesight is very unclear, some people find **# 1** easier but; developing a habit of looking at the central field while also looking at the peripheral field by trying to use the central and peripheral fields of the eyes retina-eyes visual field, looking at, thinking about two points, 'two parts of a object or two objects' at the same time causes; tension, strain in the eyes, mind, head, eye muscles, body and unclear eyesight. It causes diffusion, eccentric fixation which is the opposite of central fixation. It has the tendency to cause staring, interferes with normal eye movement.

I prefer **# 2** because; the eyes and mind are at rest, relaxed, functioning normal, best and eyesight is perfectly clear when the eyes, mental and visual attention is on the central field, seeing, noticing that the central field, point directly regarded is most clear. Using the eyes central area of the retina 'fovea', the eyes central field. Color is also brightest, best in the central field. With practice, relaxation, the central field will become perfectly clear, better than 20/20 and this also improves the peripheral field to its maximum clarity, function.

It is normal for the peripheral field (the point not directly regarded to be less clear. The brain, eyes do sense images in the peripheral field but normally functioning eyes, the mental, visual attention is in the central field to maintain relaxation and clear eyesight. The central field moves automatically with the eyes. If you want to see a object that's in the peripheral field; turn, move the eyes, face to look directly at the object, placing it in the central field and see it perfectly clear. The eyes are never 'fixed' on a point, but move continually point to point. Modern teachers use different words to describe central-fixation to prevent students from misunderstanding the word. Avoid fixing the eyes, vision on a object/staring at an object. Combine central fixation with shifting; let the eyes move upon the object of visual attention. Let the eyes move from object to object.

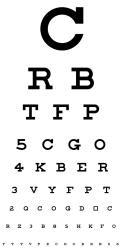
Better Eyesight Magazine

May, 1930

Suggestions to Patients

By Emily C. A. Lierman, Bates

The Use Of The Snellen Test Card - Test Card Practice



Editor's Note - The following is taken from Mrs. Bates' book, "Stories From The Clinic". Although the majority of our subscribers have Mrs. Bates' book, we believe that these suggestions can always be reread with benefit.

1 – Every home should have a test card.

2 – It is best to place the card permanently on the wall in a good light.

3 – Each member of the family or household should read the card every day.

4 – It takes only a minute to test the sight with the card. If you spend five minutes in the morning practicing with the card, it will be a great help during the day.

5 – Place yourself ten feet from the card and read as far as you can without effort or strain. Over each line of letters are small figures indicating the distance at which the normal eye can read them. Over the big C at the top of the card is the figure 200. The big C, therefore, should be read by the normal eye at a distance of two hundred feet.

If you can read this line at ten feet, your vision would be 10/200. The numerator, top number of the fraction is always the distance of the card from the eyes. The denominator, bottom number always denotes the size, number of the line read. If you can only read the line marked 40 at ten feet, the vision is 10/40.

6 – If you can only see to the fifth line, at ten feet for example, notice that the last letter on that line is a R.
Now close your eyes, cover them with the palms of the hands and remember the R. If you will remember that the left side is straight, the right side partly curved and the bottom open, you will get a good mental picture of the R with your eyes closed. Shift part to part on the letter in the mind; left and right, top, bottom, center, any direction, to any part. This mental picture will help you

F

to see the letter directly underneath the R, which is a T. Shift part to part on the letter T. Shift continually, easy, relaxed from one small part to another.

7 – Shifting is good to stop the stare. If you stare at the letter T, you will notice that all the letters on that line begin to blur. It is beneficial to close your eyes quickly after you see the T, open them, and shift to the first figure on that line, which is a 3. Then close your eyes and remember the 3. You will become able to read all the letters on that line by closing your eyes for each letter. Shifting on the letter when the eyes are open, and when closed using the memory, imagination keeps the image of the letter in the mind clear and the image seen by the eyes clear.
Repeat this step for each line on the chart; look at the last letter on the line you can see clear. Close and cover the eyes (palm) and shift on the image of the clear letter in the mind, memorize a clear picture of the letter. Open the eyes and look at the letter on the line under it and see it clear.

Then practice at 20 feet, then 30, 40… (Practice at closer distances to start if needed and work toward farther distances.)

8 – Keep a record of each test in order to note your progress from day to day.
Fraction; Top letter is for the distance from the chart.
Bottom letter is the size of the letter, line on the chart.
5 minutes practice is beneficial. Time for testing the eyesight with the card can be only 1-2 minutes. The normal eye with clear vision can read a test card in less than 10 to 20 seconds. 5 seconds or less if not speaking each letter aloud.

9 – When you become able to clearly read the bottom ten line with each eye separately and both eyes together at ten feet; your vision is normal for the distance, 10/10.
At 20 feet=20/10 vision. At 40 feet=40/10. 20/20= seeing the 20 line at 20 feet

10 – The distance of the Snellen test card from the patient is a matter of considerable importance. However, some patients improve more rapidly when the card is placed fifteen or twenty feet away, while others fail to get any benefit with the card at this distance. In some cases the best results are obtained when the card is as close as one foot. Others with poor vision may not improve when the card is placed at ten feet or further, or at one foot or less, but do much better when the card is placed at a middle distance, at about eight feet. Some patients may not improve their vision at all at ten feet, but at one foot. While some patients are benefited by practicing with the card daily, always at the same distance, there are others who seem to be benefited when the distance of the card from the patient is changed daily.
Experiment with the test card placed at a variety of close, middle, far distances.

For close reading vision; practice at all distances, then closer and closer up to 6, 4, 3... inches from the eyes seeing small objects, fine print clear. See Dr. Bates fine print directions in the book.

Better Eyesight Magazine

SUN TREATMENT, SUNNING - The eyes need sunlight for perfect health, clear eyesight. Sunlight relaxes, rests the eyes, mind and body, keeps normal eye tolerance to bright sunlight, improves energy flow, strength, mood, emotions, thinking, sleep and health of the body, mind, eyes.

Some persons are unable to see in a bright light. Their vision is usually improved by the sun treatment. An important part of the routine treatment is the use of direct sunlight. It is best to let the eyes become accustomed to the sun by mild treatment at first.

Sit or stand in the sun with the eyes closed with the face, eyes turned toward the strong light of the sun. Expose the closed eyes to the sun, a few minutes at a time by letting it shine directly on the closed eyelids and slowly move the head (and eyes with the head in the same direction) a short distance side to side. Forget about the eyes, think of something pleasant, let the mind drift from one happy thought to another or think of nothing and just enjoy the sun. Before opening the eyes, palm for a few minutes.

The head, eye movement moves the sunlight evenly over the entire retina. Moving light activates the cones, rods, all parts of the eyes, improving their function and activates tiny, fast saccadic eye movements, prevents strain and over concentration of the sun's rays on the eye. Practice for half an hour or longer whenever possible. Morning, daytime, sunset, 2-10 minutes is also beneficial. Now turn the back to the sun and open the eyes. There should be relief at once. The eyes are rested, strengthened and gradually grow accustomed to the strong light of the sun. At first there may be slight discomfort which usually disappears in a few minutes. By repetition, strong sunlight will be tolerated easily and benefit becomes greater and permanent.

Do the Long Swing or Sway (Rock) facing the sun with eyes closed. Then with eyes open facing the bright sky, trees, clouds.

When the eyes are used to the strong sunlight, raise the upper lid of one eye, look downward to cover the eyes pupil with the lower lid and let the sun shine on the sclera, white part of the eye. Stop to blink as needed. Relax. Repeat with the other eye.

Then, try it with both eyes, at the same time. Then look up, head back to keep direct sunlight from entering the pupil, pull the lower lids down and let the sun shine on the lower white area of the eyes. Get sunlight daily, often as possible without sunburn.

G

When the sun is not shining, a strong electric light (I000 watts) is substituted. The patient sits about six inches from the light, or as near as he can without discomfort from the heat, allowing it to shine on his closed eyelids as in the sun treatment. (Do not use fluorescent light. Use full spectrum lights. Open windows, skylights is the best natural light. I prefer not to use artificial light, light bulbs when sunning due to the risk of the bulb popping, breaking by accident or burnout resulting in eye injury.) People who work in mines, where there is no sun, sooner or later develop inflammations of the interior of the eyes. The cloudiness of the lens from cataract is lessened by exposing the eyes to the direct rays of the sun.

EYE-SHADES (Avoid Sunglasses, Tinted, Colored and UV Blocking Lenses)

No Sunglasses, tinted, UV blocking lenses.
Dark glasses block healthy full spectrum sunlight resulting in unclear vision, eye disease.

When the eyes are hypersensitive to light, one usually obtains immediate relief from the discomfort by the use of an eye-shade. This relief, however, is temporary, and very soon glasses are prescribed which seldom are a permanent benefit. The conditions are not favorable for normal vision when using eye-shades. The normal eye is not made uncomfortable in a good light. An eye-shade makes the eyes more sensitive to light and causes eyestrain. Patients who have used eye-shades habitually, are very difficult to cure. Sun treatment, Sunning when used properly, is often followed by quick relief.

Sun-Gazing - Open Eyed; Open eyed sunning is practiced by some religions, nationalities. Modern Natural Eyesight teachers advise closed eye sunning only due to depletion of the earth's ozone layer. Other teachers state it is beneficial to look at the sun or near the sun at the bright sky. The head and eyes are moved continually left and right and in other directions and the eyes blink to avoid staring and concentration of the sun on any one area of the eyes to avoid sunburn, overexposure. Time looking at the sun is limited and location on the planet, ozone, strength of the sun's light is considered.

Do not be in a hurry to look in the neighborhood of the sun. The strong glare may cause a temporary loss of vision, and other discomforts, after images which may continue for some hours or days before recovery. There is no danger of a permanent loss of vision by looking more or less directly at the sun. Good nutrition must be applied. Avoid all drugs, sinus sprays, chemicals, some herbs, food that can impair eye function, normal light tolerance. Other conditions apply. See the entire sunlight directions, end of this book and in the E-book sunlight chapter.

Shifting on Small Objects, Shifting on, Reading Tiny Letters, Fine Print Daily or 1-3 Times Week

Reading fine print clear one inch from the eyes. Blink, relax.

Read the section on Fine Print for directions. Shift on and see small details of small objects (a flower, rock) and fine, tiny print clear at close reading distances. Improves close and distant eyesight by improving central-fixation, tiny shifting, relaxation and naturally returns an abnormal lengthened eye that causes myopia and an abnormal shortened eye that causes presbyopia to a normal round shape for clear eyesight. Fine print improves convergence, accommodation, divergence, un-accommodation, circulation in the eye, function, health of the eyes lens and ciliary muscle that controls the lens, can prevent cataracts, astigmatism, other eye problems and prevent need for eyeglasses.

Better Eyesight Magazine

June, 1925

Suggestions to Patients By Emily C. Lierman, A. Bates

1 - Palm in the morning while in bed.

2 - Take sun treatment for twenty minutes or longer every day.

3 - Mentally or physically, keep up that pendulum-like motion. (Long Swing, Sway and see Oppositional Movement 'The Swing' produced by the eyes' shift.) Practice shifting on close and far objects in a pleasant scenery or an eyechart and see the opposite swing. Place the chart in the scenery.

4 - After sitting in the sun, hold the small card and flash the white spaces.

5 - What you do not see immediately, do not worry about.

6 - While practicing with the Seven Truths of Normal sight, always move the card slowly from side to side as you hold it six or eight inches from your eyes.

7 - To induce sleep when suffering from headache or nervous strain, close your eyes, remember the small F or T of the ten line of the test card and imagine it is moving slightly, about one-quarter of an inch, either up and down or to the left and right. (Shift small

H

part to small part 'point to point' on the letter in the mind or, just let the eyes shift automatically on their own as you imagine the letter moving.)

8 - There is a right way and a wrong way to blink the eyes while practicing. Children like to hold up their two hands about ten or twelve inches apart, looking first at one hand and then at the other. In this way one blinks when looking at the right hand and again when looking at the left hand. The head should turn in the same direction with the eyes.

9 - Nearsighted patients sometimes get along faster in the cure of their eyes by using two similar test cards at the same time while practicing. One card is held in the hand while the other is five or ten feet away. The patient looks at a letter up close and imagines he sees the same letter on the distant card. Then the patient closes his eyes and imagines that letter perfectly. Having seen it perfectly up close, he becomes able by practice to see it just as well on the distant card.

Suggestions to Patients - June, 1930

1. If the vision of the patient is improved under the care of the doctor, and the patient neglects to practice, when he leaves the office, what he is told to do at home, the treatment has been of no benefit whatever. The improved vision was only temporary. Faithful practice permanently improves the sight to normal.

2. If the patient conscientiously practices the methods, as advised by the doctor, his vision always improves. This applies to patients with errors of refraction, as well as organic diseases.

3. For cases of squint (crossed, wandering eyes) we find that the long swing is beneficial to adults and to children.

4. When a patient suffers with cataract, palming is usually the best method of treatment, and should be practiced many times every day.

5. All patients with imperfect sight unconsciously stare, and should be reminded by those who are near to them to blink often. To stare is to strain. Strain is the cause of imperfect sight. The following rules will be found helpful if faithfully observed:—

6. While sitting, do not look up without raising your chin. Always turn your head in the direction in which you look. Blink often.

7. Do not make an effort to see things more clearly. If you let your eyes alone, things will clear up by themselves.

8. Do not look at anything longer than a fraction of a second without shifting.

9. While reading, do not think about your eyes, but let your mind and imagination rule.

10. When you are conscious of your eyes while looking at objects at any time, it causes discomfort and lessens your vision. This is why it is good to learn, consciously practice shifting, central fixation, then; don't practice-let the eyes do it automatically, on their own without thinking about the eyes, clarity of vision.

11. It is very important that you learn how to imagine stationary objects to be moving, without moving your head or your body.

12. Palming is a help, and I suggest that you palm for a few minutes many times during the day, at least ten times. At night just before retiring, it is well to palm for half an hour or longer.

For Suggestion # 11 - Entire directions; Most of the time the head, body moves with the eyes. This keeps relaxed, perfect eye shifting with central-fixation. Seeing stationary objects move means; *Seeing the 'swing' of opposite movement*. The object the eyes 'vision' shifts on produces an illusion; it appears to move opposite of the direction that the eyes move 'shift' to. Shift left to right >; the object moves left <. Shift right to left <; the object moves right >. Moving the head, body with the eyes improves appearance of opposite movement, makes it easy to see. #11 is saying; *The ability to shift and see the opposite movement even when the head, body does not move. Indicates the eyes alone can shift with perfect relaxation, perfect central-fixation from one point to another point.* **BUT**; not moving the head, body with the eyes can cause tension in the eyes, eye muscles, head, neck and body. It is natural for the head to turn, move with the eyes, *with your central field*. The head, body moves in the same direction the eyes move to; face what you are looking at. Constantly looking left, right, up, down... without turning-moving the head with the eyes causes tension, pulling. Tension is relieved, movement is free when the head moves with the eyes. The neck is relaxed. It is easy to see opposite movement on close objects. Far objects also show opposite movement. But; if the head-body-eyes move as when swaying left and right or walking, riding in a car looking out the side window; far objects appear to move with the head-body-eyes, especially when there is a closer object in front of the far object. So; to see the opposite movement when shifting on a far object; keep the head movement *equal with the eyes*; not longer, not shorter than the shift of the eyes from one point (part) on the object to another. Perfect central-fixation. This rule also applies when looking at, shifting on a close object; head movement is not longer, not shorter than the eyes' shift. Keep the head-face with the eyes; the part of the object you are looking directly at is between the eyes, at eye level, in the *central field*. The central field moves object to object, part to part on a object. Each new part or new object you move to goes into the central field. Moving the head with the eyes perfects this, makes it easy, relaxed. Read pg. 322 for entire #11 description, the swings, opposite movement, shifting directions, description of stationary and non-stationary objects. Dr. Bates Better Eyesight Magazine, 132 issues contain directions for a variety of swings, seeing the swing of opposite and same direction movement;

I

BETTER EYESIGHT - January, 1924 - THE VARIABLE SWING:

Some years ago a school teacher called for treatment. She had a conical cornea, which is a very serious disease of the front part of the eye. The cornea bulges and becomes conical. The apex of the cornea becomes ulcerated, and may become perforated with loss of aqueous. Various operations have been recommended, but the results have been usually very unsatisfactory. The vision of the patient was 1/20 of the normal. She was very much benefited by the variable swing. The variable swing is shorter at twenty feet, or further (far distances) than it is at six inches. In this swing the patient holds the forefinger of one hand to one side of the temple, and while looking at the Snellen Test Card, the head is moved from side to side a short distance. *(The eyes move with the head side to side.)* The patient when looking straight at the card, was able to imagine the finger moving from side to side an inch or more, while the test card moved a much shorter distance, or did not appear to move at all. By shortening the movement of the head, the swing became still shorter, until the finger seemed to move no more than its own width, and the card seemed stationary. It was very remarkable how her vision improved with the improvement in the swing. At the end of about an hour of the variable swing, her vision had improved to 1/2 with flashes of normal sight occasionally, which was a great deal better than the vision she obtained with her glasses.
There are some people who can practice the variable swing and obtain good results, while there are others who are not able to use it with any help or comfort. It is difficult for me to explain why or how, some people obtain good results from this form of a swing, while others require supervision with a great deal of mental gymnastics from their medical adviser.

NOVEMBER, 1922

THE VARIABLE SWING

(Oppositional Movement, Conical Cornea Cured)

RECENTLY I have been impressed very much by the value of the variable swing. **By the variable swing is meant the ability to imagine a near object with a longer swing than one more distant.** For example, a patient came to me with conical cornea, which is usually considered incurable. I placed a chair five feet away from her eyes, clearly on a line with the Snellen test card located 15 feet distant. When she looked at the Snellen test card and imagined the letters moving an inch or less (shifting on the letters) she could imagine the chair that she was not looking at moving quite a distance. As is well known; **the shorter the swing the better the sight**. Some persons with unusually good vision have a swing so short that they do not readily recognize it. This patient was able to imagine the chair moving an inch or less and the card on the wall moving a shorter distance. She became able to imagine the chair moving a quarter of an inch and the movement of the Snellen test card at 15 feet was so short that she could not notice it. In the beginning her vision with glasses was poor and without glasses was double, and even the larger letters on the Snellen test card were very much blurred. Now, when she imagined the chair moving a quarter of an inch and the Snellen test card moving so short a distance that she could not recognize it, the **conical cornea disappeared from both eyes and her vision became normal**. To me it was one of the most remarkable things I have seen in years. I know of no other treatment that has ever brought about so great a benefit in so bad a case. The variable swing is something that most people can learn how to practice at their first visit. Some people can do it better than others. The improvement depends directly upon their skill in practicing the variable swing.

JANUARY, 1926 - The VARIABLE SWING

Hold the forefinger of one hand six inches from the right eye and about the same distance to the right. Look straight ahead and move the head a short distance from side to side. The finger appears to move in the direction opposite to the movement of the head and eyes. *Clarification for Variable Swing - 'Look straight ahead and move the head side to side'. When moving the head side to side; the eyes move side to side with the head, at the same time, in the same direction.* Same rule for all of the swings; the eyes move with the head.

SHORT SWING: When the sight is normal, one can demonstrate the short swing. When it is imperfect, one can demonstrate only the longer swing. When a patient with imperfect sight regards the Snellen test card at ten or fifteen feet, he may be able to imagine one of the letters on the card to be swinging a quarter of an inch or less. The imagination of a shorter swing always improves the sight. Some patients can imagine the short swing better with their eyes closed than with them open. Alternate the imagination of the swing of the letter with the eyes closed and with them open. By repetition, the vision of the letter with the eyes open will improve (at first in flashes, later more continuously), if the memory of the short swing is perfect with the eyes closed.

JULY, 1928 - SHIFTING AND SWINGING

When shifting is done properly, it is practiced easily, without effort or strain. When one shifts from a point to the left to a point to the right, the swing produced is continuous, regular, and promotes relaxation. It is possible to shift with the eyes closed with as much benefit as with the eyes open. There are some people who cannot shift with the eyes open without a strain and yet they can shift or swing or imagine perfect sight with the eyes closed. Whenever the head and eyes are moved from side to side, one should imagine that stationary objects are moving in the opposite direction. This should be practiced at all times until the habit is obtained.

J

JUNE, 1928 - VARIABLE SWING

The patients holds the forefinger of one hand six inches from the right eye and about the same distance to the right, as he moves the head a short distance from side to side. Look straight ahead. The finger should appear to move in the opposite direction to the movement of the head. *The eyes move with the head when doing the variable swing.* (This can also be done with the finger held on the left side or between the left and right eyes, at eye level. Placing the finger to the side of the eye-face prevents the double illusion of the finger that is seen when looking to the distance with the finger in front of the face, between the eyes. Also; the finger placed to the side of the face provides extra effects-benefit that removes astigmatism, corrects a uneven cornea. Practice with each placement for a evenly curved, smooth cornea; finger on the left side, then the right, then between the eyes.)

The circular swing prevents the stare and relieves pain and fatigue;

Hold the forefinger of one hand about six inches in front of one eye and a few inches to the outer side of the face. Look straight ahead. By moving the head and eyes in a circular or an elliptical orbit, notice that the finger appears to move in the direction opposite to the movement of the head and eyes. Now realize that the hand must move with the finger because the hand and finger are fastened together. When one moves, the other moves in the same direction, up, down, to the right or left. The same fact is true of the arm fastened to the wrist. When the finger moves, the hand, wrist and arm in turn, all move and in the same direction. Likewise when the finger moves, the shoulder moves with it and other parts of the body fastened directly or indirectly to the finger. You may soon become able to imagine the chair on which you are sitting to be fastened indirectly to the finger. When one moves, the other always moves in the same direction. When you become able to imagine all things, one at a time to be moving with the finger, i.e., the universal swing, the stare is prevented and pain and fatigue disappear. The memory, imagination and vision are also improved.

Far distant objects also move opposite the head and eyes, but swing shorter and can appear to move in the same direction the head and eyes move to. See pg 322. (The Figure Eight – Infinity Swing is a modern version of the circular and square swings.)

Seven Truths of Normal Sight

1—Normal Sight can always be demonstrated in the normal eye, but only under favorable condition.

2—Central Fixation: The letter or part of the letter regarded is always seen best.

3—Shifting: The point regarded changes rapidly and continuously.

4—Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions, with a pendulum-like motion. Shifting, optical drift, oscillations, saccadic... tiny automatic eye movements cause the object to show small movements in various directions and indicates normal, healthy eye, vision function.

5—Memory is perfect. The color and background of the letters, or other objects seen, are remembered perfectly, instantaneously and continuously.

6—Imagination is good. One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size, or form, of the letters.

7—Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

All the functions of the visual system work together, are integrated. Practicing, improving one, improves all. Practice improving each one and all are greatly improved. Relax, Blink, Breathe abdominally, Shift, Central Fixation, Memory and Imagination, Oppositional Movement (The Swing), Shifting on Familiar Objects, Eyechart Letters, Flashing, Reading Fine Print, Sunning, daily exposure to Sunlight, Palming, Good Posture, Exercise, Diet…

Shifting back and forth (Switching) on objects at close and far distances with both eyes together, one eye at a time, some extra time with a eye that may have less clear vision, then both eyes together again is beneficial, aligns the eyes' foveas, movement.

Free Natural Eyesight Improvement

Adults, children can experience free Natural Eyesight Improvement Training by watching how children (that have clear vision, their eyes, visual system are developed) use their eyes; relaxed, their eyes move, 'shift' often, easily, clear vision occurs effortless, automatically without thinking about it, without controlling their eyes and vision. Imitate, practice the child's way of seeing. (Do not let the child know you are watching their eyes because this can cause them to start thinking about their eyes, clarity of vision, attempt to control the eyes' function. That will interfere with completely natural, normal eye movement.. and visual clarity. Similar to a teacher placing a lot of pressure on a child to see an eyechart clear. The child must be allowed to see the chart in a relaxed state, memorize the letters. Same rule for adults testing the sight at the eye doctors office or home. Relaxation, good memory produces clear eyesight.

K

A new born, young baby's eyes move slow, with less shifts as the visual system, brain, eyes are developing. The eyes, 'visual attention' move with less shifts upon objects as the baby's brain, eyes are becoming familiar with objects, developing, storing clear mental, memory pictures of each new object it encounters. A baby usually first practices this on its mother's face. When objects are memorized, mental pictures stored in the brain; the next time the baby sees the objects they are familiar, so the eyes move faster as they shift quickly upon the familiar object. More shifts and small, tiny shifts occur on parts, details of the object. The vision is clear. Reading comic books, any books with a lot of colorful pictures, interesting stories improves eye movement, memory, imagination, relaxation of the mind, eyes and the clarity of eyesight. Encourage children to read comic books.

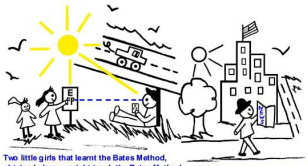
School, college books should contain pictures to activate mental and visual interest, enjoyment when reading. The subject is easy to remember and school grades improve. It is healthy for the eyes, brain function to look at pictures on paper. Avoid using computer screens. They contain artificial 3-D, EMF radiation.

Use the free PDF E-Books on the website to search for more examples, pictures to learn the practice, activities in this book, easily memorize them. Read Ophthalmologist William H. Bates' *Better Eyesight Magazine Illustrated with 500 Pictures* and the book *Do It Yourself - Natural Eyesight Improvement - Original and Modern Bates Method*. Print them out and read in the sunlight.

THE BLIND MAN

From Better Eyesight Magazine

Little Girls Cure Homeless Man of Blindness



Two little girls that learnt the Bates Method, obtained clear eyesight teach the Bates Method to a blind homeless man they found living outside under a bridge.
They cure the blindness, his eyesight and health are restored.
Treatment: Sunning, sunlight, palming, shifting and switching on letters on identical close and distant eyecharts, swinging, central fixation...
Children are often the best Natural Vision Improvement teachers.

His blindness cured, he now reads the newspaper, walks the city on his own, looks for a job and continues to practice the Bates Method.

Editor's Note. - This letter from a school teacher was just received, and seemed so worthwhile that we decided to make room for it in this issue. It substantiates Ms. Lierman's reports that those who know the method can improve the sight of others. We regret that we did not have time to obtain the permission of the writer to publish this article, and are therefore withholding her name.

Dear Dr. Bates:

I cannot resist telling you what my little Edith Collins, aged twelve years, has done for a blind man that she picked up on the street. His eyes were very much sunken. She taught him to palm and sun-gaze. She and a little girl friend visited him in his hovel once or twice a week. Much of the time he was so ill that he kept to his bed, but had this so placed that the sun shone on his eyes. Little by little his eyes came forward. He palmed faithfully and swung a chart that was given to him.

A visiting nurse was telling him it was all "bunk" one day, as Edith entered. She spoke to the nurse and informed her it was not bunk, and that if she (the nurse) would come back in two or three months she would find out for herself. Well, up to July the reports were that he was gradually looking better, and his eyes seemed fuller. When school opened, Edith came into my room and said, "He sees!" I had forgotten about the man, and for a minute I wondered what she meant. She told me that she had met this man on the street a week or two ago - he was very happy - sees to get around, can read headlines in the papers, and can pick out the smaller words in spots. He has promised her that he will not stop exercising till he obtains perfect sight. He also told Edith that if he had not met her, he would still be a blind man begging for food. Now he intends to find work in some other city. Isn't this a **wonderful thing for a little girl to do**? Of course, if it were not for Edith, the man would still have been blind. Children do not discriminate as to whether a man is a beggar, a worker or worthy. To them there are no differences. They scatter the good into every nook and cranny, and what is more, if it had not been for the revolutionary discovery of this very, very natural way to see and think, I would not have been able to have carried it on to the children, who so unquestionably take to the truth when presented to them.

I have been so excited about this that I had to write you at once!

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. II — MARCH, 1920 — No. 3

INFLUENZA—A QUICK CURE

PROGRESSIVE MYOPIA RELIEVED
By E. E. Agranove

STORIES FROM THE CLINIC
By Emily C. Lierman

HOW I WAS CURED
By Victoria Coolidge

AFTER GLASSES FAILED
By Florence Miller

$2.00 per year — 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET — NEW YORK, N. Y

To stay within the publisher's page limit; fine print is used in this section to include these extra practices by Emily and Dr. Bates. Reading fine print is healthy for the eyes, it keeps the vision clear at close and far distances.

The two Black and White book editions are allowed more pages, contain normal size print for this section. The free E-books include this book, Dr. Bates Better Eyesight Magazine in normal and fine print. Prints any size.

Suggestions

By EMILY A. BATES

1. If the vision of the patient is improved under the care of the doctor, and the patient neglects to practice, when he leaves the office, what he is told to do at home, the treatment has been of no benefit whatever. The improved vision was only temporary. Faithful practice permanently improves the sight to normal.
2. If the patient conscientiously practices the methods, as advised by the doctor, his vision always improves. This applies to patients with errors of refraction, as well as organic diseases.
3. For cases of squint we find that the long swing is beneficial to adults and to children.
4. When a patient suffers with cataract, palming is usually the best method of treatment, and should be practiced many times every day.
5. All patients with imperfect sight unconsciouly stare, and should be reminded by those who are near to them to blink often. To stare is to strain. Strain is the cause of imperfect sight.

The following rules will be found helpful if faithfully observed:—

6. While sitting, do not look up without raising your chin. Always turn your head in the direction in which you look. Blink often.
7. Do not make an effort to see things more clearly. If you let your eyes alone, things will clear up by themselves.
8. Do not look at anything longer than a fraction of a second without shifting.
9. While reading, do not think about your eyes, but let your mind and imagination rule.
10. When you are conscious of your eyes while looking at objects at any time, it causes discomfort and lessens your vision.
11. It is very important that you learn how to imagine stationary objects to be moving, without moving your head or your body.
12. Palming is a help, and I suggest that you palm for a few minutes many times during the day, at least ten times. At night just before retiring, it is well to palm for half an hour or longer.

Clarification for #11; The head moves with the eyes (most all of the time) when the eyes-vision move 'shifts' part to part on a object and from object to object.

Imagine and SEE opposite movement, 'The Swing'; Shift left and right on a distant tree and see it appear to move opposite the shifting movement of the eyes;

Shift left to right > - The tree moves < left
Shift right to left < - The tree moves right >

Shift dot to dot

Moving the head with the eyes, in the same direction improves this movement, makes it easy and relaxed.

#11 is saying; the swing of opposite movement should also occur 'be seen' during times when the head and body are not moving. It's healthy to move. Most of the time the head and body move with the eyes.

Read page 322 for the entire description, examples of eye movement 'shifting', head, body movement and the appearance of opposite movement of stationary objects.

The pictures below and on the next page are photographs of book pages from Dr. Bates and Emily A. Bates natural vision practice; *Fundamental Principles* and *Suggestions*. Emily added these to the last pages of the final original 1940 print edition of Perfect Sight Without Glasses. Dr. Bates and Emily teach that fine print is healthy for the eyes, vision. Read it daily at 20 inches and closer to the eyes; 7 - 3... inches in the sun and inside under a comfortable light. This prevents, cures Presbyopia, Cataract, Farsight, Myopia and Astigmatism.

CHAPTER XXXIII

HOW TO DEMONSTRATE THE FUNDAMENTAL PRINCIPLES OF TREATMENT

THE object of all the methods used in the treatment of imperfect sight without glasses is to secure rest or relaxation, of the mind first and then of the eyes. Rest always improves the vision. Effort always lowers it. Persons who wish to improve their vision should begin by demonstrating these facts.

To demonstrate the strain lowers the vision, think of something disagreeable, some physical discomfort, or something seen imperfectly. When the eyes are opened, it will be found that the vision has been lowered. Also stare at one part of a letter on the test card, or try to see the whole letter all alike at one time. This invariably lowers the vision, and may cause the letters to disappear. Another symptom of strain is a twitching of the eyelids which can be seen by an observer and felt by the patient with the fingers. This can usually be corrected if the period of rest is long enough. Many persons fail to secure a temporary improvement of vision by closing their eyes, because they do not keep them closed long enough. Children will seldom do this unless a grown person stands by and encourages them. Many adults also require supervision.

CLOSING THE EYES

The simplest way to rest the eyes is to close them for a longer or shorter period and think about something

agreeable. This is always the first thing that I tell patients to do and there are very few who are not benefited by it temporarily.

PALMING

A still greater degree of rest can be obtained by closing and covering the eyes so as to exclude all the light. The mere exclusion of the impression of sight is often sufficient to produce a large measure of relaxation. In other cases the strain is increased. As a rule, successful palming involves a knowledge of various other means of obtaining relaxation. The mere covering and closing of the eyes is useless unless at the same time mental rest is obtained. When a patient palms perfectly he sees a field so black that it is impossible to remember, imagine, or see anything blacker, and when able to do this he is cured. It should be borne in mind, however, that the patient's judgment of what is a perfect black is not to be depended upon.

THE LONG SWING

Demonstrate—That the long swing not only improves the vision, but also relieves or cures pain, discomfort and fatigue.

Stand with the feet about one foot apart, facing squarely one side of the room. Lift the left heel a short distance from the floor while turning the shoulders, head, and eyes to the right, until the line of the shoulders is parallel with the wall. Now turn the body to the left after placing the left heel upon the floor and raising the right heel. Alternate looking from the right wall to the left wall, being careful to move the head and eyes with the movement of the shoulders. When practiced easily, continuously, without effort and without paying any at-

tention to moving objects, one soon becomes conscious that the long swing relaxes the tension of the muscles and nerves.

Stationary objects move with varying degrees of rapidity. Objects located almost directly in front of you appear to move with express train speed and should be very much blurred. It is very important to make no attempt to see clearly objects which seem to be moving very rapidly.

The long swing seems to help patients who suffer from eyestrain during sleep. By practicing the long swing fifty times or more just before retiring and just after rising in the morning, eyestrain during sleep has been prevented or relieved. It is remarkable how quickly the long swing relieves or prevents pain. I know of no other procedure which can compare with it. The long swing has relieved the pain of facial neuralgia after operative measures had failed. Some patients who have suffered from continuous pain in various parts of the body have been relieved by the long swing, at first temporarily, but by repetition the relief has become more permanent. Hay fever, asthma, sea-sickness, palpitation of the heart, coughs, acute and chronic colds are usually relieved by the long swing.

MEMORY

When the sight is normal the mind is always perfectly at rest, and when the memory is perfect the mind is also at rest. Therefore it is possible to improve the sight by the use of the memory. Anything the patient finds it agreeable to remember is a rest to the mind, but for purposes of practice a small black object, such as a period or a letter of fine print, is usually most convenient. The most favorable condition for the exercise of the memory is, usually, with the eyes closed and covered, but by practice it becomes possible to remember equally well with the eyes open. When patients are able, with their eyes closed and covered, to remember perfectly a letter of fine print, it appears, just as it would if they were looking at it with the bodily eyes, to have a slight movement, while the openings appear whiter than the rest of the background. If they are not able to remember it, they are told to shift consciously from one side of the letter to another and to consciously imagine the opening whiter than the rest of the background. When they do this, the letter usually appears to move in a direction contrary to that of the imagined movement of the eye, and they are able to remember it indefinitely. If, on the contrary, they try to fix the attention on one part of the letter, or to think of two or more parts at one time, it soon disappears, demonstrating that it is impossible to think of one point continuously, or to think of two or more points perfectly at one time, just as it is impossible to look at a point continuously, or to see two points perfectly at the same time. Persons with no visual memory are always under a great strain and often suffer from pain and fatigue with no apparent cause. As soon as they become able to form mental pictures, either with the eyes closed or open, their pain and fatigue are relieved.

IMAGINATION

Imagination is closely allied to memory, for we can imagine only as well as we remember, and in the treatment of imperfect sight the two can scarcely be separated. Vision is largely a matter of imagination and memory. And since both imagination and memory are impossible without perfect relaxation, the cultivation of these faculties not only improves the interpretation of the pictures on the retina, but improves the pictures themselves. When you imagine that you see a letter on the test card you actually do see it, because it is impossible to relax and imagine the letter perfectly, and, at the same time, strain and see it imperfectly. The following method of using the imagination has produced quick results in many cases. The patient is asked to look at the largest letter on the test card at the near-point, and is usually able to observe that a small area, about a square inch, appears blacker than the rest, and that when the part of the letter seen worst is covered, part of the exposed area seems blacker than the remainder. When the part seen worst is again covered, the area of maximum blackness is still further reduced. When the part seen best has been reduced to about the size of a letter on the bottom line, the patient is asked to imagine that such a letter occupies this area and is blacker than the rest of the letter. Then he is asked to look at a letter on the bottom line and imagine that it is blacker than the largest letter. Many are able to do this, and at once become able to see the letters on the bottom line.

FLASHING

Since it is effort that spoils the sight, many persons with imperfect sight are able, after a period of rest, to look at an object for a fraction of a second. If the eyes are closed before the habit of strain reasserts itself permanent relaxation is sometimes very quickly obtained. This practice I have called flashing, and many persons are helped by it who are unable to improve their sight by other means. The eyes are rested for a few minutes, by closing or palming, and then a letter on the test card, or a letter of fine print, if the trouble is with near vision, is regarded for a fraction of a second. Then the eyes are immediately closed and the process repeated.

READING FAMILIAR LETTERS

The eye always strains to see unfamiliar objects, and is always relaxed to a greater or less degree by looking at familiar objects. Therefore the reading every day of small familiar letters at the greatest distance at which they can be seen is a rest to the eye, and is sufficient to cure children under twelve who have not worn glasses, as well as some older children, and adults with minor defects of vision.

CENTRAL FIXATION

When the vision is normal the eye sees one part of everything it looks at best and every other part worse in proportion as it is removed from the point of maximum vision. When the vision is imperfect it is invariably found that the eye is trying to see a considerable part of its field of vision equally well at one time. This is a great strain upon the eye and mind, as anyone whose sight is approximately normal can demonstrate by trying to see an appreciable area all alike at one time. At the near-point the attempt to see an area even a quarter of an inch in diameter in this way will produce discomfort and pain. Anything which rests the eye tends to restore the normal power of central fixation. It can also be regained by conscious practice, and this is sometimes the quickest and easiest way to improve the sight. When the patient becomes conscious that he sees one part of his field of vision better than the rest, it usually becomes possible for him to reduce the area seen best. If he looks from the bottom of the 200 letter to the top, for instance, and sees the part not directly regarded worse than the part fixed, he may become able to do the same with the next line of letters, and thus he may become able to go down the card until he can look from the top to the bottom of the letters on the bottom line and see the part not directly regarded worse. In that case he will be able to read the letters. Since small objects cannot be seen without central fixation, the reading of fine print, when it can be done, is one of the best of visual exercises, and the dimmer the light in which it can be read and the closer to the eye it can be held the better.

THE EFFECT OF LIGHT UPON THE EYES AND SUN TREATMENT

Although the eyes were made to react to the light, a very general fear of the effect of this element upon the organs of vision is entertained both by the medical profession and by the laity. Persons with normal sight have been able to look at the sun for a short length of time, without any discomfort or loss of vision. Immediately afterward they were able to read the Snellen test card with improved vision, their sight having become better than what is ordinarily considered normal. Some persons with normal sight do suffer discomfort and loss of vision when they look at the sun; but in such cases the retinoscope always indicates an error of refraction, showing that this condition is due, not to the light, but to strain. It has been my experience that all persons who wear dark glasses sooner or later develop inflammation of their eyes. The human eye needs the light in order to maintain its efficiency. The use of eye-shades and protections of all kinds from the light is injurious to the eyes. Sunlight is as necessary to normal eyes as is rest and relaxation. If it is possible, start the day by exposing the closed eyes to the sun. Just a few minutes at a time will help. Get accustomed to the strong light of the sun by letting it shine on your closed eyelids. It is good to move the head slightly from side to side while doing this, in order to prevent straining. One cannot get too much sun treatment

BRAIN TENSION

The brain has many nerves. Part of these nerves are called ganglion cells and originate in some particular part of the brain. Each has a function of its own. They are connected with other ganglion cells and with the aid of nerve fibres are connected with others located in various parts of the brain as well as in the spinal cord, the eye, the ear, the nerves of smell, taste, and the nerves of touch. The function of each ganglion cell of the brain is different from that of all others. When the ganglion cells are healthy, they function in a normal manner.

The retina of the eye contains numerous ganglion cells which regulate special things such as normal vision, normal memory, normal imagination and they do this with a control more or less accurate of other ganglion cells of the whole body. The retina has a similar structure to parts of the brain. It is connected to the brain by the optic nerve.

Many nerves from the ganglion cells of the retina carry conscious and unconscious control of other ganglion cells which are connected to other parts of the body.

When the ganglion cells are diseased or at fault, the functions of all parts of the body are not normally maintained. In all cases of imperfect sight, it has been repeatedly demonstrated that the ganglion cells and nerves of the brain are under a strain. When this strain is corrected by treatment, the functions of the ganglion and other cells become normal. The importance of the mental treatment cannot be over-estimated.

A study of the facts has demonstrated that a disease of some ganglion in any part of the body occurs in a similar ganglion in the brain.

Brain tension of one or more nerves always means disease of the nerve ganglia. Treatment of the mind with the aid of the sight, memory and imagination has cured many cases of imperfect sight without other treatment.

Fine Print for Relaxation

The Bible has been reduced from $4.00 to $2.50. Read what Dr. Bates says about fine and microscopic type, then get a Bible. This unique book measures only one by one and a half inches, and contains the Old and New Testament.

The Booklet

of fine print contains three chapters from the small Bible, together with "The Seven Truths of Normal Sight" as discovered by Dr. Bates. Instructions are also printed in the front of the book. Price 25c

Shift part to part on fine print letters, words. Even if they are blurry; just relax and move the vision upon them. Blink. Look at the white spaces between sentences. See the white closest to the black print 'glow' bright white. A thin white line is under the sentence. Look at, shift on the black print. Think something pleasant. Move the page a bit in the hand; left and right, up, down and in any direction. This prevents staring, it activates eye movement. Look at the white space and thin white line again, move along it. When the print flashes clear; read it. When the eyes-brain see the words clear; the brain moves the vision quickly along the sentences. Thoughts, mental pictures of the subject being read also create automatic eye movements. The vision remains clear.

There are a few clarifications added to Dr. Bates, Emily's Antique Fundamentals, Suggestions... in their books, Better Eyesight Magazine. All are listed in this book and on pg. 379-380. For Suggestion # 11 on page 320; Most of the time the head and body move with the eyes. This keeps relaxed and perfect eye shifting with central-fixation. Seeing stationary objects move means; Seeing the 'Swing' of Opposite Movement = the object the eyes 'vision' shifts on produces an illusion; it appears to move opposite of the direction that the eyes shift (move) to. Shift from left to right >; the object moves left <. Shift from right to left <; the object moves right >. Moving the head and body with the eyes improves the appearance of opposite movement. (The opposite swing also occurs when the head, body does not move when the eyes shift.) #11 - "To imagine stationary objects to be moving without moving your head or your body" is saying; *The ability to see the opposite movement 'swing' of stationary objects when shifting the eyes 'vision' (especially tiny shifting of the eyes) on close or far objects without the assistance of the head, body movement. This indicates the eyes are shifting with relaxation, correct central-fixation from one point to another point.* But; not moving the head, body with the eyes can cause tension, disrupt the eyes' shift and central-fixation 'movement, placement of the central field'. It's natural for the head-body to turn, move with the eyes, *with your central field.* The head-face and body move in the same direction the eyes move to; face what you are looking at. Constantly looking left or right... without turning the head with the eyes causes tension, pulling in the eyes, eye muscles, head, neck, shoulders and spine. Tension is avoided when the head moves with the eyes. The movement of the head with the eyes 'your mental-visual attention' is natural. Don't block it.

The #11 no head-body movement statement is just a test. It is not to be done all the time. Its best to allow the head-body to move with the eyes. Always avoid tension, immobility; if you feel any tension in the eyes, head, neck... when trying the shifting without head-body movement test; allow the head to move with the eyes. Blink and relax. This is the normal healthy eye-vision function. Try using head movement when practicing #11; the head movement is not longer, not shorter than the shift of the eyes from one point to another point (central-fixation point to the next central-fixation point. 'From one part to another part'.) on the object. A balanced, coordinated motion. Dr. Bates and Emily state in their other training practices, Better Eyesight Magazine; to move the head with the eyes, that head/face, body movement with the eyes is normal, it assists central-fixation, shifting and relaxation. Imagine and see the opposite swing; Practice shifting on close and far objects with the eyes open and imagine, see the opposite movement. Shift on objects in the mind with the eyes closed and see the opposite movement using the memory, imagination. This improves eye movement, the brain's function with the eyes and the vision.

When shifting on a small object, the head movement is small. When shifting on a large object or across the scenery; a long head movement occurs with the long movement of the eyes. When the eyesight is unclear the opposite movement may appear too long or not be seen, be stiff or shaky 'like Jello'. Opposite movement appears correct when shifting is normal. As relaxation and eyesight improve the movements are perfect. *Read Dr. Bates and Emily's pages in this book and Dr. Bates 132 Better Eyesight Magazine issues for many different swings; Sway, Long Swing, Short Swing, Variable, Optical, Universal... physical-visual practices to see the opposite and same direction swing of stationary close and far objects.*

It is easy to see opposite movement on close objects. Far objects also show opposite movement when shifting on them. But; when the head-body, eyes move left, right... as when doing the Sway (page 170) or just walking; far objects appear to move *with the eyes, head/body* in the same direction, especially when there is a closer object in front of the far object.

When walking sideways and looking at a far object (window on a house); the far house and window appear to move with you. But; a opposite movement of the window when shifting on it as you walk does occur. Let the head move with the eyes. This is a combined effect of same and opposite direction movement. Don't try hard to see the opposite movement of the window. Just relax, move and shift on it. Blink. It is normal to turn the head, shoulders with the eyes when looking to the side at something when walking... But, when staying on a object; it is best to fully face the eyes-head, shoulders and entire body at the object for relaxed muscles, eyes. (Shifting is necessary for clear eyesight. Shift on objects when walking and when not walking...)

To see the opposite movement 'swing' when shifting on a close, middle or far object; it is most easily seen when you; stop walking, and face the object, shift on it and keep the head movement with the eyes; not longer, not shorter than the shift of the eyes from one part on the object to another part. Do this without forcing perfection. Stay relaxed, loose and mobile.

Example #1; shift back and forth on the left and right sides of a far tree miles away that appears small; the head moves with the eyes *not longer, not shorter than the shift of the eyes from the edge of one side of the tree to the edge on the other side*. See picture pg. 320; shift left and right-dot to dot. Easy, relaxed like a swinging pendulum. Next; shift on a small close object (pen) and see it move opposite. The Sway can be done when shifting on a object and seeing opposite movement; as long as the sway is not longer, not shorter than the shift of the eyes. The eyes, head and body move together, in the same direction. Example; doing smaller and tiny length left-right, up-down... sways when shifting on eyechart letters. The sway is not longer, not shorter than the shift of the eyes on the letter. If shifting across the entire chart, the sway is not longer, not shorter than the eyes' left-right shift across the chart. You can shift on letters as you sway over them. See the eyechart chapter for more swings, opposite movement on page 427 to 429. The opposite movement 'swing' appears short when shifting, never longer than the shift of the eyes 'vision' from one part of the object to another part. Read Dr. Bates book and Better Eyesight Magazine for more examples of the swing's appearance, speed when shifting, walking, swaying...

Example #2; Shift on a house that appears small in the far distance up in the mountains miles away; shift from a small part on the left of the house to a small part on the right, then left again, right. Shift top, bottom, corner to corner and in any direction. Move the head with the eyes not longer, not shorter than the shift of the eyes from one point to the other point. Perfect central-fixation. See the far house swing opposite of the direction the eyes shift to. Same rule when looking at, shifting on a close object; the head movement goes with the eyes, is not longer, not shorter than the eyes' shift. *The eyes' fovea-macula (central field) moves upon the object to the part you decide to look at. The peripheral field sees the previous part you were looking at. The previous part moves 'swings' in the opposite direction into the peripheral field as the eyes 'central field' shift to the new part. The opposite swing is produced by the eyes' shift and the central-peripheral field showing where on a object you are moving from-to. When the eyes, head-face move away from the object, are not looking directly at it; the object goes into the peripheral field and is less clear. Same for a part of a object; the part the eyes are no longer looking directly at has moved from the central field into the peripheral. The central field produces the clearest vision, best detail and color. For perfect vision, best clarity; face the object you look at, put it in the central field and move 'shift' the central on it.* See Dr. Bates Central-Fixation chapter on pg. 114.

Close and far objects show opposite movement when the eyes shift on them. Practice shifting on close, middle and far objects and see the opposite swing. Shift left and right, up and down, diagonally and in any direction and see the opposite movement. Practice with the eyes open and in the imagination with the eyes closed. Practice shifting on objects at one distance at a time. Shift on a small part of an object and see a small opposite swing. Shift and see the swing on a flower or small stone up close to the eyes. Shorten the shift and see a tiny opposite swing; shift on a tiny part of an object or a fine print letter up close and see a tiny opposite swing. Do it relaxed, easy, no effort to see it. Blink. Shift on the E. See it move. Ability to do a tiny shift and see a tiny swing produces better than 20/20 vision. Shifting on and seeing the swing of opposite movement on tiny, small, large, any size objects and when shifting from object to object, across the entire scenery relaxes the mind, eyes, perfects eye shifting, central-fixation, the eyes' convergence-divergence, improves depth, distance... perception and brings very clear vision.

***Relaxation practice*; Shift on a object. Then look away from it-go to a different object and shift on it, then move back to the first object, shift on it, then move away again, then back... Blink and breathe. This relaxed continual movement prevents effort to see, eye-body immobility 'staring'. Movement and relaxation bring clarity. When looking away; you can also close and cover the eyes and think something pleasant. See Dr. Bates Palming Chapter on pg. 123. Shift on the eyechart letters and the white page 'glow' around the letters. See pg. 420.**

Try this experiment to notice tension verses relaxation; shift on a eyechart letter and move the head longer than the eyes' shift, head moving outward past the edges of the letter; note tension occurs. Next; move the head shorter than the eyes' shift by moving the head in the middle of the letter while the eyes shift over the entire letter; note tension occurs. Next; don't move the head as you shift on the letter; notice there might be some tension but not as much as the previous 2 tests. And, the head might try to move with the eyes to attain full relaxation. Next; move the head the same length as the eyes' shift; note complete relaxation occurs, the eyes move freely and vision is clear.

Usually the head/face (and often body) move with the eyes. Moving the head and body with the eyes when shifting on objects, looking around at the scenery... is the normal function of the visual system and it perfects; shifting, central-fixation, appearance of opposite and same direction movements. It keeps the eyes, eye muscles, neck, head and body relaxed, mobile, free of tension and the vision clear. Eye movement 'shifting', central-fixation are perfect when the head moves with the eyes to face the object you are looking at. The head moves with the eyes at the same time, in the same direction the eyes, 'visual/mental attention' move to. See this by watching a crown of people at a football, basketball, tennis game, when you read a book, someone calls your name, when looking for something in your yard, searching for birds in the trees, tracking a moving object, watching a plane flying across the sky.

When shifts are small, tiny, shifting part to part on a very small object, fine print letter... the head movement is very small, might not always occur, but the head/face, neck, eyes remain relaxed, loose and there is usually a small or tiny underlining head movement with the eyes. Even when shifting on a small period at the end of a sentence. Notice if you stare, 'eyes, head are immobile'; soon strain, tension and blur occur. The eyes, head and neck become tight. Medium and long shifts always have head movement. Never block the head movement with the eyes when looking at something to the side; right, left, up, down... Turn the head and face the object. Notice that while watching a small TV, computer or phone screen; sometimes head movement does not occur with every small, tiny shift. Longer small, medium and large shifts on the screen occur with head movement. Acquire the habit of moving the head with the eyes to keep the eyes, head, neck and body relaxed. The head movement with small and tiny shifts may not always be noticed unless you look for it because it's a subtle, automatic, subconscious movement. Many eye shifts are very tiny, microscopic; saccades, optical drift, high frequency tremors.., a vibration like a fine tuned motor humming along, the eyes floating as in space, moving effortlessly. The tiny movements keep the eyes in constant motion. This is healthy, it rests the eyes. The eyes, eye muscles are relaxed, healthy with perfect circulation, clear vision.

When the eyes move 'shift' on a stationary close or far object, the object shows an illusion of appearing to move, 'swing by' in a direction opposite of where the eyes shift to, 'The Swing'. The stationary objects do not really move. Example; a telephone pole, table, fence is a stationary object. A moving train, bird flying, person riding by on a bike, leaf blowing in the wind... is a non-stationary 'moving' object. Distant objects appear to move with the eyes, head-body in the same direction when doing the Sway (moving the head-body-eyes together back and forth-left and right, up and down, diagonally.., sweeping across the scenery). Close objects continue to show opposite movement when doing the Sway; moving left, right, up, down...

Don't lock the eyes-vision onto objects appearing to move opposite when doing the Sway, Long Swing, other swings. Don't stop swinging, don't turn back to look at them. Let them swing by. Relax and sweep over the objects as you continue to move left and right... The imaginary nosefeather on pg. 400 helps the movement, balance and relaxation when swinging.

When shifting on a object at a close, middle or far distance; the speed of opposite movement of the object is equal to the eyes' shift. But, when swaying left and right or walking...; close, middle and far objects show different speeds as they pass by. Close objects swing opposite with a large movement and show the most speed. Middle distance objects show a shorter, slower opposite swing. Farther distance objects show a more shortened, slower opposite swing. The most far object (distant mountains, trees, clouds, moon...) show the shortest, slowest opposite swing, so short-slow that they 'appear' to move with you. It is most emphasized when closer objects are in front of the far object. A close object (example; 5 feet) shows opposite movement when swaying left and right in front of it. But, it shows same direction movement-appears to move with the eyes, head-body if another close object is in front of it closer to the eyes.

Example; *Place two crayons in front of the face, between the eyes, at eye level; one at 5 feet, the other at 1 foot. Move the head and eyes together side to side and see the different movements. Vary the distance of the two crayons and see the movements change. Next; use one crayon, place it in front of the face, between the eyes and move the head-eyes side to side while letting the vision sweep across the far distant scenery. See the crayon move opposite. Now do this while the vision sweeps across the crayon. Notice the different types of movement produced.*

Look out of a moving train side window to see the different speeds, amount of opposite and same direction movement of stationary objects at close, middle and far distances. Don't lock the eyes-vision immobile on the objects, do not try to stop them from moving. Let them swing by. Notice that closest objects move opposite quickly with a large movement. Middle distance objects move opposite slower, show less opposite movement. Far objects appear to move slowest, show the smallest opposite movement and appear to move with the eyes, head-body-train in the same direction. As time passes, the train moves down the tracks, the far distant object shows that it does appear to move opposite, is now behind the train. See 'double oppositional movement' as close, middle and far objects appear to move against eachother in opposite directions. Walk forward, backward and see opposite movement of the floor and close objects on your left and right sides. Notice objects in front of you move toward you when walking forward and away from you when walking backward. Walk and turn-look to the side; notice close, middle and far objects' opposite movement, its varying speed. Jump on a trampoline, use a rocking chair, swing, sea-saw. See the different types, speeds, size of opposite and same direction movement by doing the Sway outside in the sunlight; move the head, body and eyes together; left and right, up and down, diagonally. Draw the Figure Eight - page 417. The brain, eyes use these different opposite and same direction movements, illusions to determine depth, distance, space, time, speed, size, level, height, perceive individual objects. This helps clear away blurry vision and is especially helpful to the blind, people with advanced blur. Central-fixation, shifting return and improve. The ears, balance work with the eyes, brain. Sinus pressure, astigmatism, blurry vision, eye muscle tension, neck tension can disrupt these movements.

Dr. Bates proved as fact that tension in the outer eye muscles (oblique, recti) causes a pressing, pulling on the eye, squeezing it, altering its shape, disrupting the focus of light rays in the eye resulting in unclear vision.

Depending on which muscles are tense; the light rays will focus before or beyond the retina, scattering unfocused on the retina causing myopia, farsight, astigmatism...

The muscle tension also causes dysfunction of eye muscle movement, it's contraction, un-contraction.
Tense muscles impair eye movement, cause abnormal eye pressure and pressure, tension, pulling, stretching on/in the eye, retina, lens, cornea, impaired circulation of blood, fluids, tears, aqueous humor, nutrients, proteins, oxygen, lymph and energy to/in the eye, lens, retina. The act of pulling light into the eyes, optimum use of the light is reduced. Light receptors (cones, rods), cells, nerves... in the retina function at a reduced level and are pulled, stretched. Transmission of light energy signals to the brain, along the spine, in the body are affected. Tension, dysfunction travels to the inner eye muscles; ciliary-lens, ciliary body-process, iris. Tension occurs in the cornea. All these conditions cause; unclear vision, astigmatism, cataract, detached retina and vitreous, glaucoma, pressure on the optic nerve, conical cornea, dry eyes, light sensitivity-glare, crossed-wandering eyes, amblyopia and other eye-vision problems.

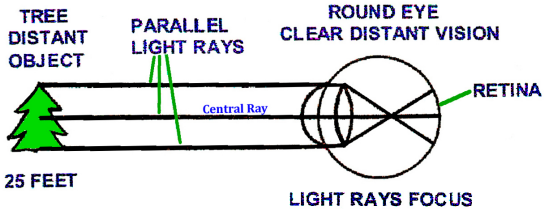
Eye muscle tension and other dysfunction of the eyes, visual system are caused by; incorrect use of the eyes-vision (staring, squinting, using effort to see clear, diffusion, eccentric fixation), mental strain, negative, stressful thoughts, emotions, shoulder-collarbone-neck-head muscle tension, incorrect posture, short tight breathing.

Eye muscle tension, things that cause eye muscle tension and all of the resulting conditions and many other eye-vision problems are created and greatly increased by wearing eyeglasses, contact lenses, tinted-colored lenses and sunglasses. Prescriptions are often the ONLY cause.

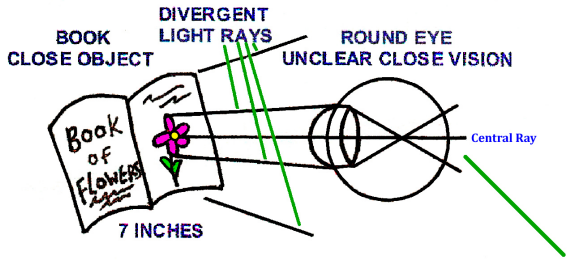
When eyeglasses are avoided; the eye muscles, eyes, vision and mind-brain's action with the eyes and muscles return to correct function, health naturally, on their own.

Health of the body, mind, emotions, diet, drugs and a few rare conditions (injury...) also have an effect on vision.

ACCOMMODATION - CLEAR CLOSE VISION
Dr Bates states the eye lengthens to produce clear close vision.

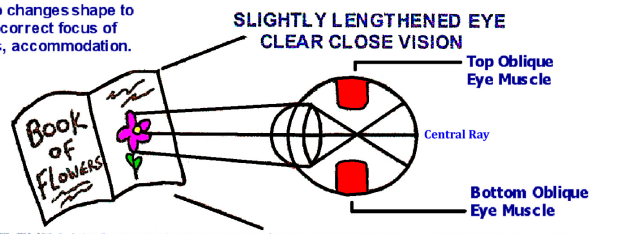


THE ROUND EYE IS THE PERFECT SHAPE FOR CORRECT FOCUS OF PARALLEL LIGHT RAYS FROM DISTANT OBJECTS ONTO THE RETINA.



DIVERGENT LIGHT RAYS FROM CLOSE OBJECTS FOCUS INCORRECT BEYOND THE RETINA IN THE ROUND EYE.
THE EYE MUST LENGTHEN SLIGHTLY TO ENABLE DIVERGENT LIGHT RAYS TO FOCUS CORRECT ON THE RETINA.

Eye doctors state that the lens also changes shape to produce correct focus of light rays, accommodation.



THE EYE LENGTHENS SLIGHTLY TO PRODUCE ACCOMMODATION AND ENABLE DIVERGENT LIGHT RAYS FROM CLOSE OBJECTS TO FOCUS CORRECT ON THE RETINA AND PRODUCE CLEAR CLOSE VISION.
THE OBLIQUE OUTER EYE MUSCLES CONTRACT SLIGHTLY TO LENGTHEN THE EYE. Most eye doctors state; Only the lens changes shape to produce accommodation, clear close vision.

Modern doctors have proved that the eye and lens change shape.
They work together to produce accommodation and un-accommodation.

Dr. Bates proved that relaxation of the outer eye muscles returns the eye to normal shape, perfect focus of light rays and corrects all the conditions, eye problems listed above resulting in clear vision. A main Bates Method practice is relaxation of the mind-body-eyes, correct, relaxed use of the vision (correct vision habits). The eye muscles relax when the mind, visual system are relaxed. Memory, imagination are perfected. All brain functions improve. The Bates Method relaxes, returns all the eye muscles to correct function; outer oblique, recti, tear, oil glands, blinking and inner ciliary/lens, iris muscles. The eye, cornea and lens return to normal shape and function for clear eyesight at all distances. Muscles in the neck, ears, sinus also function correct. When muscles relax, the nerves relax and function correct. The ears, balance system work with the eyes, vision. Sinus congestion, air pollution, dry air, mold, allergy, hair dye.., dehydration can affect the eyes, eye muscles, cornea, lens and vision.

Eye movement functions with the eyes adjustment-focus for clarity of vision at different distances; convergence for close vision (eyes moving, crossing inward toward eachother), divergence for far vision (eyes moving outward toward a parallel position). This occurs with, affects and is affected by accommodation, un-accommodation (shape/focus change) of the lens and eye. Shifting eye movements, saccades, central-fixation and other eye functions are also affected by the state of the eye muscles, eye shape, focus of light rays and convergence, divergence, accommodation, un-accommodation. When one or more are impaired, all can be affected. Improving one or more functions helps to improve all functions.

Dr. Bates stated that the lens does not change shape, does not produce accommodation for close vision. He stated that the outer oblique eye muscles that wrap around the eye contract to lengthen the eye slightly 'like a camera functions' to produce accommodation, clear close vision. (The eye, lens shape/state are set to perfectly refract parallel light rays from far objects for clear far vision. The eye must accommodate when looking at close objects because light rays from close objects diverge. Their refraction needs to change to focus correct upon the retina.)

The cornea also changes shape with the eye. (The cornea, a natural convex lens, refracts about 80% of the eyes' light rays.)

Modern eye doctors state they have proved the lens changes shape to produce accommodation. They also state they discovered that the action of the ciliary muscle as it changes the lens' shape affects the shape of the eye, 'lengthens it a bit'. Was this what Dr. Bates saw in his experiments? Doctors state that the eyes' lens hardens with age and cannot accommodate, starting at around age 40. They cannot explain why many people can see clear without eyeglasses, without surgery, up close-reading and far into the distance after 40 years old, up to and past age 100 years.

Some scientists state that the lens and eye both change shape, work together to produce perfect accommodation. The oblique outer eye muscles lengthen the eye at the same time the ciliary muscle changes the lens' shape for accommodation. They return to their previous shape/state for clear far vision, un-accommodation. Most eye doctors prefer not to admit this because they will have to state Dr. Bates and his method is correct.

Can the lens move forward and backward? Can the eye accommodate alone by lengthening more as needed to compensate if the ciliary/lens do not accommodate? Will evolution create more eye functions? A theory is; as the eye lengthens to produce accommodation (by contraction of the outer oblique eye muscles, as Dr. Bates observed), the ciliary muscle attached to the lens controls the amount of change in the shape of the lens during this process and can allow and prevent change in the lens' shape. Eyeglasses freeze the lens and ciliary muscle immobile and also tense the outer eye muscles. The entire eyes' movement is affected. Circulation to the lens is lowered and eventually, with stronger prescriptions, is blocked. Presbyopia, cataract and other eye problems develop. Minus, plus lenses, astigmatism, bifocal.., all eyeglasses do this. Far vision is also impaired. Plus lens reading glasses cause fast impairment of the eye-lens natural accommodation, they quickly freeze the lens. Dependence on eyeglasses and stronger prescriptions occurs. Tension in the outer eye muscles travels into the eye, ciliary muscle increasing impairment of the lens' movement.

Presbyopia; Bates teachers state that it is not the lens becoming hard-inflexible that causes presbyopia, unclear close reading vision. It is tension in the outer eye muscles and the ciliary muscle that controls movement, shape of the lens. A tense, immobile ciliary muscle may not be able to change the shape of the lens. The lens might 'freeze up' due to lack of movement. Circulation in the area of the muscle, lens can be disrupted by outer and inner eye muscle tension. When the ciliary muscle is tense, cannot move to change the lens' shape-produce accommodation, it might have an effect on the shape of the eye; the lens and eye's shape, movement may be limited, frozen for some or all distances, causing unclear vision at those distances. Close and far vision can be affected. Tension in the outer eye muscles travels into the eye, the ciliary, iris eye muscles.

Optometrist Harold M. Peppard and others state; It is not age, it is many years of poor diet and incorrect posture that can cause arthritis, stiffness resulting in imperfect, imbalanced convergence of the left and right eyes when looking close. Central-fixation (both eyes central fields 'foveas' moving together on the same point) and the eyes' tiny shifts 'saccades' are imperfect and or imbalanced. Tension in the eye muscles (outer and inner) and neck muscles can cause presbyopia. Tension in the neck can travel to the eye muscles and block complete convergence, accommodation. More tension on one side of the neck can cause only one eye's muscles to be tense, affect it's movement with the other eye; accommodation, convergence with the other eye becomes unequal-imperfect resulting in blur. This can also affect divergence, un-accommodation resulting in myopia (distant blur).

Reading fine and microscopic print, looking at 'shifting;' on small parts of small objects up close to the eyes corrects the convergence, accommodation, central-fixation (centralizing), tiny and other shifts and removes the tension. This results in clear close and reading eyesight. Relax the neck; drink homemade organic raw apple cider vinegar and place it on the neck, shoulders (any stiff joint). Take warm Epsom Salt baths. Drink lots of water, exercise, walk. Dissolve a but of organic sea salt on the tongue sometimes before drinking a quart of water. This restores the joints health, relaxes the muscles, brings full mobility to the neck and other joints. Relaxation, perfect and balanced movement travels to the eye muscles and eyes.

There are many ideas concerning the eyes' function. The Bates Method, relaxing the mind, body, eye muscles (inner and outer), the eyes, entire visual system continues to work regardless of facts and theories, including corrupt-phony lens studies, experiments paid for, controlled by eye surgeons.

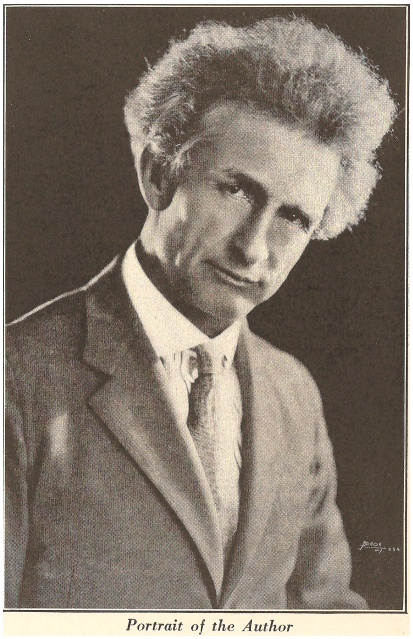
Read the old Spanish book by a doctor trained by Ophthalmologist Bates; 'El Uso Natural de La Vision' (The Natural Use of Vision) by Dr. Ramon Ruiz Arnau, M.D. His book is free at the Library of Congress. Read Dr. Arnau's articles in Dr. Bates Better Eyesight Magazine. Sept., 1923;

THE speaker scheduled for the evening was Mrs. Gordon, a patient of Doctor Ruiz Arnau. Being troubled with Presbyopia, and severe headaches, Dr. Arnau came to Dr. Bates for relief. Upon being cured, he took the course of treatment under Dr. Bates and is practicing this method with great success. The following reports of some of his patients were received with interest: Mrs. Gordon could do nothing without her glasses, which she wore for three years. However, as they failed to improve either her vision or her sick headaches, she visited Dr. Arnau, whom, she heard, was using Dr. Bates' method. At the end of three weeks she was amazed to discover that she could not only leave off her glasses without the least discomfort, but her headaches had disappeared. She can now sew, read, thread needles and continue her work of teaching with ease. Mrs. Gordon explained that if she was cured in three weeks, children ought to make rapid progress and be cured permanently in less time. Read; May, 1920 Issue; My Headaches By R. Ruiz Arnau, M.D.

Taking an eye bath with the eye-cup. The eye-cup filled with the desired solution is so placed as to fit the eye socket with the head bent forward over it. Then tip the head back as in the illustration and open the eye and move it about in the solution. The solution is usually *pure* water, boil then cool it.

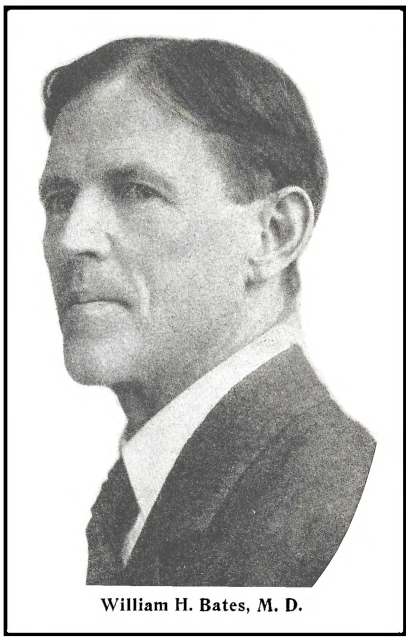
The eye-cup. A convenient device for taking the eye bath with a minimum of solution.

The eye-cup can be used to remove dirt, specific foreign objects... from the eye. (To be done only with an eye doctors' directions.) No eye-drops... Eye-drops impair natural tear production, function. Natural tears, oil... produced by the eyes contain their own anti-bacterial, healing action, lubrication, nutrients. Even plain water might disrupt the eyes natural tears. There are many swimmers, surfers often under water and they see well. Life evolved in water. But; we live on land, so don't use the eye-cup unless needed. Sometimes its best to gently turn the eyelid inside-out to remove dirt and then let the eyes natural tears finish the cleansing without the eye-cup. Other times the eye-cup is needed to completely clear the debris. If a object is stuck in the eye, removing it can break blood vessels and cause more injury. An eye surgeon is needed to remove it a certain way and sterilize the eye. If you need the eye-cup; ask your eye doctor how to prepare, purify the water. Parasites, germs in drinking, pond, most any water can get into the eye by showers, swimming.., using the eye cup. Ocean *salt water* is often cleaner but algae, germs... and pollution still exist. Parasites get into the eyes more often by being stuck under a contact lens. A certain medicine and specific application from an eye doctor cures parasites. We all take showers, go swimming (without contacts) and rarely encounter harmful parasites, germs. Moving water, the ocean, rivers (pure areas) are better than still pond, lake... water. Some well water is pure, but others are contaminated. Old underground water and sewage pipes crack and infect drinking water. Germs, drugs... There are many toxic chemicals in tap water.



Portrait of the Author

Bernarr Macfadden, founder of the Physical Culture Magazine, author of "Vitality Supreme," "Encyclopedia of Physical Culture," "Building of Vital Power," "Manhood and Marriage," etc.



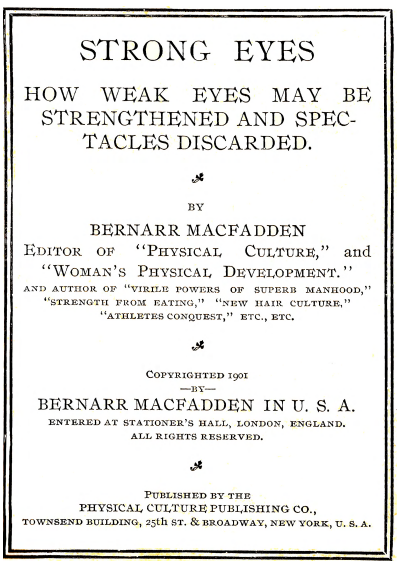
William H. Bates, M. D.

Bernarr A. MacFadden

One of the first Physical Fitness, Natural Health Teachers. Author of Physical Culture Magazine.

Worked with Paul C. Bragg, the Raw-Organic Apple Cider Vinegar and Honey Natural Health Cures Teacher. MacFadden's 1901 book 'Strong Eyes' contains effective practices, but some are not Dr. Bates *True Method*. Later MacFadden changed some of his eyesight training after studying with Dr. Bates; he learned that bright sunlight... is healthy for the eyes He then wrote a new book (course) 'Strengthening The Eyes' with Ophthalmologist William H. Bates in 1918. A 1918 (1st?) print included Dr. Bates name, picture inside. Dr. Bates' name, picture were not placed in later book editions, including one... dated 1918. Dr. Bates may have chosen this due to not agreeing with some of the books' practices; unnatural eye massage, eye rolls and stretches, eye-baths. MacFadden may have also chosen to leave Dr. Bates name and picture out of the new editions' introduction, book cover due to fear of harassment, closing of his publishing Co. by the many dishonest organized eye surgeons, eyeglass sellers who were losing money, patients due to Dr. Bates curing them naturally without glasses, surgery. They attacked Dr. Bates his entire life and Bates Method teachers to this day. Final edition by MacFadden 1940... Dr. Bates worked on his own book in 1919 - the 1920's and his monthly Better Eyesight Magazine from 1919 to 1930, wrote Medical Articles, notes... from college-1881 to 1931. July 10th, 1931; Dr. Bates Deceased, age 70. This book with many of MacFaddens' healthy practices, Dr. Bates true natural method, with comments he might state against the unnatural eye rolls, stretches, massage... and two additional books by Dr. William B. MacCracken (trained by Dr. Bates); *Use Your Own Eyes* and *Normal Sight Without Glasses* are Free in the 20 PDF E-books, Download from the website.

See MacFadden & Bates very effective practice for Clear Close and Far Vision and Strabismus Correction on page 227+.



STRONG EYES

HOW WEAK EYES MAY BE STRENGTHENED AND SPECTACLES DISCARDED.

BY

BERNARR MACFADDEN

EDITOR OF "PHYSICAL CULTURE," and "WOMAN'S PHYSICAL DEVELOPMENT."

AND AUTHOR OF "VIRILE POWERS OF SUPERB MANHOOD," "STRENGTH FROM EATING," "NEW HAIR CULTURE," "ATHLETES CONQUEST," ETC., ETC.

COPYRIGHTED 1901

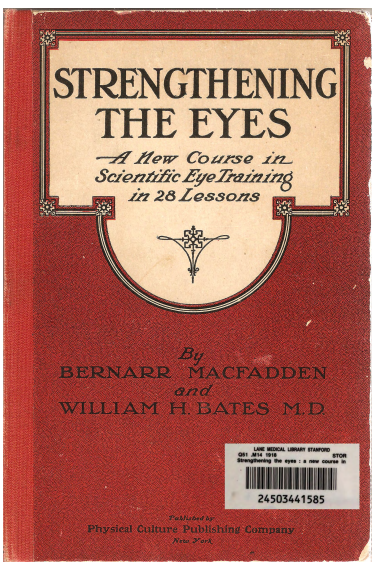
—BY—

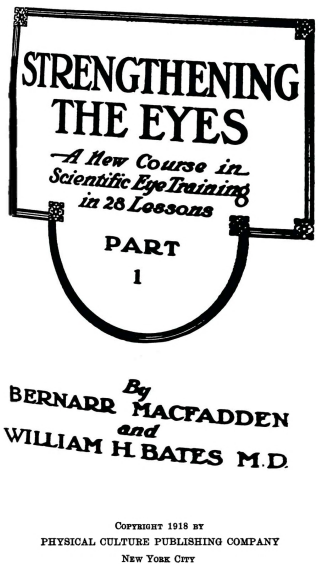
BERNARR MACFADDEN IN U. S. A.

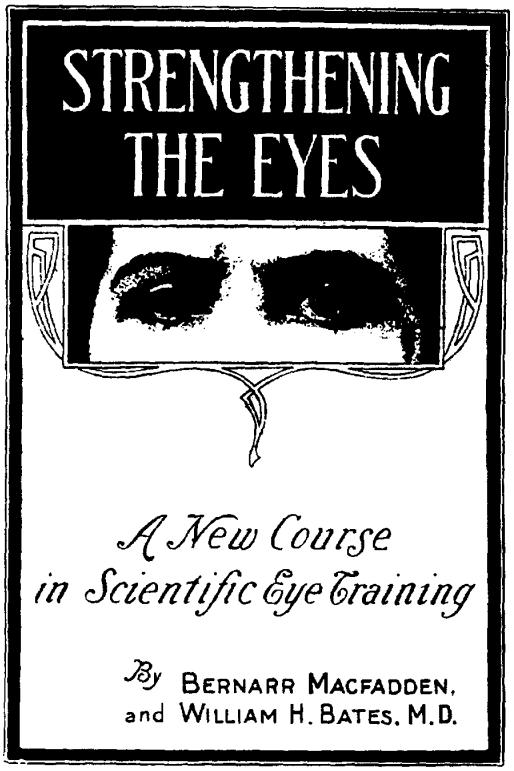
ENTERED AT STATIONER'S HALL, LONDON, ENGLAND.

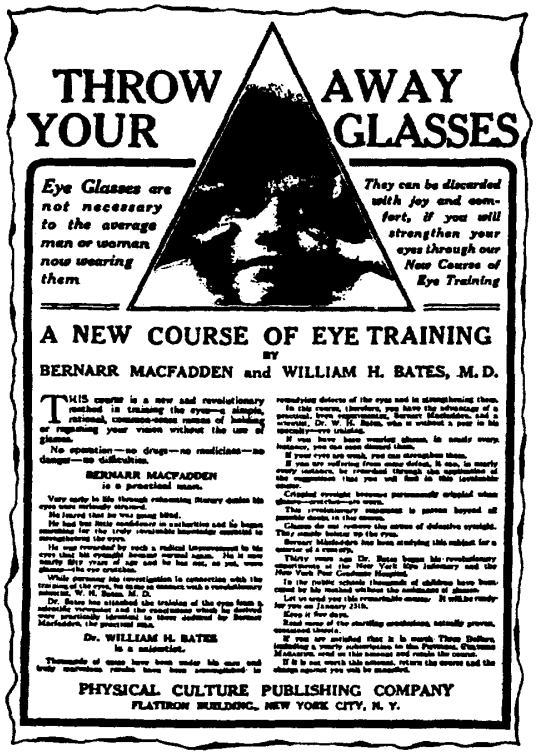
ALL RIGHTS RESERVED.

PUBLISHED BY THE PHYSICAL CULTURE PUBLISHING CO., TOWNSEND BUILDING, 25th ST. & BROADWAY, NEW YORK, U. S. A.



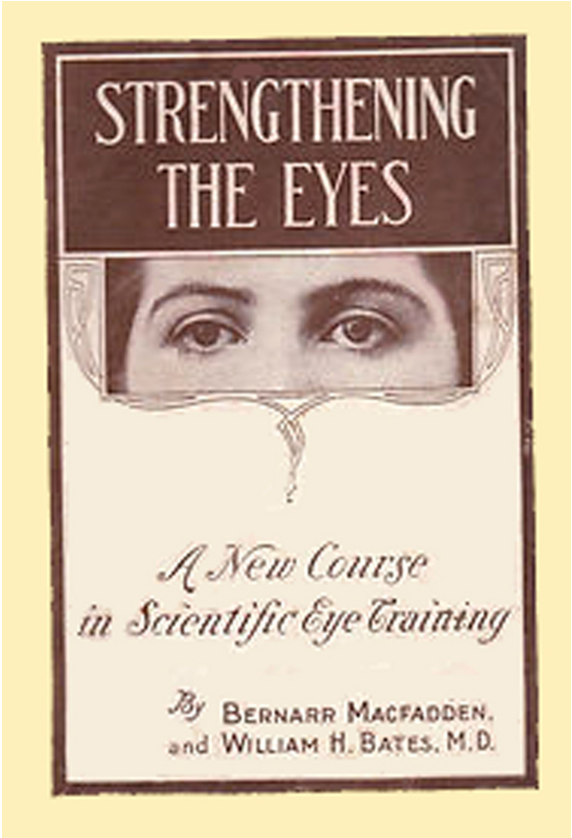






A typical advertisement from *Physical Culture* advertising the "course" prepared by Dr. Bates and Bernarr Macfadden in collaboration.

Journal of the American Medical Association. 81(15): Oct., 13, 1923. 1301-2



Page Two

This part of the book contains PAGE TWO from 132 Monthly Issues of Better Eyesight Magazine. In the Original Antique TypeFace in Small/Fine Print. Published July, 1919 to June, 1930 by Ophthalmologist William Horatio Bates. Page Two is at the beginning of each magazine issue. It contains Dr. Bates' main Natural Eyesight Improvement Treatments. 132 different practices for clear eyesight. Page Two is written by Dr. Bates. Articles also list patients, other teacher's experiences with the Bates Method. There are many of these training articles throughout the magazine, and true stories describing how Dr. Bates applied his Method. Dr. Bates recorded 11 years of practice in his Clinic, Offices in New York City, U.S.A.; a variety of natural treatments he and his assistant Emily C. Lierman (after they married; Emily A. Bates) applied to correct their patients' eyesight. Teachers, children, parents, other doctors and their patients' cases, cures, the training they applied are included, some from other states, countries. Treatments for; Unclear Distant and Close Vision (Myopia/Nearsight, Farsight, Presbyopia), Astigmatism, Crossed/Wandering Eyes (Strabismus), Double Vision, Cataracts, Glaucoma, Cornea Scars and Ulcers, Conical Cornea, Detached Retina, Retinitis Pigmentosa, Floating Specks, Light/Sunlight Sensitivity, Unclear Night Vision and other conditions. Treatments are done without eyeglasses, contact lenses, eye surgery, drugs.

The Bates Method was hidden by eye doctors for over 100 years! Most eye doctors still hide it, *because it works*. Dr. Bates' magazines, books were destroyed and hidden after his death in 1931 by dishonest eye doctors/businesses that prefer to sell addictive-eye/vision impairing eyeglasses, contact lenses, eye drops, eye, retina and cornea surgery, lens (cataract) surgery, eye muscle surgery, surgery tools... and drugs. A few honest eye doctors, optometry, ophthalmology college... libraries, Emily A. Bates and other true Bates Method teachers, citizens preserved Dr. Bates' magazines, books for future generations. (Free on GoogleBooks, Archive.org and the Library of Congress.) The entire collection of Better Eyesight Magazine in Original Antique Print, 2468+ pages with extra training, eyecharts, Bates Method History and a modern text version with 500 pictures, Dr. Bates' Medical Articles, all of Dr. William H. Bates, Emily C. Lierman/A. Bates, William B. MacCracken M.D., Clark Night and other natural vision teachers, doctors' books with a variety of original (year 1800-1900's) and new Natural Eyesight Improvement practices are in printable Color PDF E-Books. Download free from the website; http://cleareyesight-batesmethod.info/id148.html Also in Paperback, Kindle.

Fine Print

Dr. Bates teaches that reading fine and microscopic print outside in the sunlight and at night in bright light and *comfortable* dim light keeps the eyesight clear for life; youth and into the senior years, age 100+. Maintains perfect eye health, circulation and hydration in the eyes, retina, lens, perfect accommodation, convergence, eye muscle function, eye movement/shifting, tiny saccade shifting and central-fixation (centralizing). Reading fine and microscopic print can prevent and cure cataracts and other eye-vision problems. Practice until you can see the smallest print perfectly clear at 20 to 6, 5, 4, 3, 2 inches from the eyes. Experience microscopic vision by looking at the fine and microscopic print, other small, tiny objects (flower, jewelry, stones) up close to the eyes at 3 - 1 inches to almost touching the eyelashes. Shift on the tiny parts. (rip the sharp edges off the paper to prevent paper cuts on the eye/cornea when reading the fine and microscopic print at close distances.) Read more fine print, close vision instructions in the articles in this book, in Dr. Bates Better Eyesight Magazine and the Close Vision chapter in the free PDF E-book; *Do It Yourself - Natural Eyesight Improvement - Original and Modern Bates Method*. Also search the PDF's for the words; Halos, White Glow, Illusions, Contrast.

Read fine and microscopic print with; both eyes together, then; one eye at a time, then; both eyes together again. If close vision is less clear in one eye; do 2 to 3... minutes extra practice with that eye. Then; a bit of practice again (30 seconds to 1 minute) with the clearest vision eye. Then; read with both eyes together again. (Cover the eye not in use with a loose eyepatch and keep it open under the patch when the eye in use is open.) 90% of the time; read with both eyes together for perfect, balanced convergence, accommodation of the left and right eyes, and left, right eyes (foveas/exact central fields) focusing on the same point and moving together perfectly *shifting point to point* on tiny objects at close distances. *Centralizing.* Alternate reading with Palming, Sunlight and Swaying. Close the eyes and palm. Then; read the print. Palm again, read again... Blink. Go outside in the sunlight, practice sunning, the sway. When reading; look to the distance occasionally and shift on far and middle distance objects to improve un-accommodation, divergence. Blink, relax. Avoid reading a subject that is boring. Reading something you do not like, are not interested in can cause mental effort. This leads to mental strain, tension, staring and unclear vision. Read a story, topic you enjoy.

When the print flashes clear; the eyes' movement speeds up and occurs automatically, *on its own* because the brain sees-understands it. The movement maintains clarity and relaxation. The brain then makes mental pictures of the objects, actions, subjects you are reading about. This activates more eye movement. *Clear* mental pictures bring more mental, visual shifting movement, relaxation. The brain moves the eyes/vision quick, easily along the print. Relaxation and clear vision remain.

Practice shifting on the fine print words, letters and other small objects with tiny parts; a small rock, leaf, fibers in a piece of cloth, marble, design of your fingerprints. Practice central-fixation, memory, imagination and other activities described in this book on the small objects and print. Reading fine and microscopic print 'perfects'; tiny, microscopic saccadic eye shifting movements and central-fixation (the point the eyes are looking at 'fovea *exact central* is on' is seen clearest, left and right eyes' foveas are on the same point) for fine detailed clearer than 20/20 vision at close and far distances. Reading fine, microscopic print also produces clear far eyesight (cures Myopia) and other conditions; Farsight, Astigmatism, Strabismus... The eye and lens return to full movement, normal shape. Cataract is removed.

See the White Glow (Halos); bright white areas on the white paper around and inside letters. And the bright glowing Thin White Line directly under sentences (the combined halos under the bottom of a sentence's letters). See pg. 181. This is also seen above the letters. The line under the sentence is straighter due to more letters being flat on the bottom. The white area around and inside letters, space between sentences creates an illusion; the white appears brighter, whiter than the rest of the page. The white closest to the edge of the black print is most white, glows brightest. The contrast of the black-white produces the glow. The contrast of black-white and looking at the white, then back to the black makes the letters clear, dark black. Shift back and forth on the black print and white glow. Blink. Imagine the white is a bright glowing, perfect pure white; with the eyes open, then closed, then open. Paint the glow pure white with a imaginary tiny white paintbrush using the memory, imagination; with the eyes open, closed, open. Paint the halos and along the white spaces between the sentences. Then; paint on the thin white line and imagine it glowing brightest white. This removes blur between sentences, letters if the vision is unclear. Looking at the white glow relaxes the mind and eyes, brings flashes of clear dark black print. Then; move to the print and read it. Return to the glow anytime you need relaxation. Nothing to see, just the white glow; this prevents effort to see. Looking at the white glow = no effort = relaxation = clarity. See the halos around eyechart letters. Scientists state that the eyes can see a aura around objects; people, animals, plants.., all objects have a energy field. Like the halo and force-field of white and other colors around/above a saint's head and around their body.

***Warning*; Reading by looking at/moving along the glowing white line under the sentence (with the exact central field constantly on the white line and the peripheral field on the black print, trying to look at the white line and black print at the same time) causes strain. It is diffusion, the opposite of central-fixation. It causes the eyes to try to see/focus on two different things at the same time, and the brain to try to see and think about two different things at the same time. Confusion, mental, visual strain and unclear vision occur. Avoid doing this. Also avoid reading by moving the eyes (exact central field) along the white spaces between sentences.**

The correct way to read is; look at the print. As you read a sentence; the eyes move the fovea/exact central field on-along the letters, words you are looking directly at. The exact central field looks at, shifts ON the black print. As it shifts from letter to letter, word to word and sentence to sentence; it also moves over the white areas inside and around letters. The white is also recorded by the exact central, the inner and outer central and peripheral field. The black print you are not looking directly at is recorded by the inner and outer central and peripheral areas of the retina. All is sent to the brain. As the exact central field moves on/along the black print; the thin white line appears below the sentence. If the exact central occasionally shifts to the white line, halos, then back to the black print; that is normal. We need the white to see the black. The brain and eyes work best with contrast, differences. *The white increases activation of the cones (light receptors) in the fovea centralis/macula and other areas of the retina. This produces clear vision.* The black-white contrast brings more clarity. The activation of the many cones in the fovea by the white produce clearest vision in the exact central field. For best clarity; the exact central moves directly on the print you are reading. The white also activates the cones in the retina's inner, outer central and peripheral keeping their visual fields at maximum clarity. If the eyes (exact central) jump back and forth on the white line, halos and black print sometimes; allow it. It is ok, as long as the exact central returns to the black print when reading it. Example; the white glow is looked at for a fraction... of a second, then the exact central quickly moves back to the print. Occasionally spend 2 - 3, 10... seconds looking at the white glowing areas of the page and the thin white line under the sentences to relax the mind, eyes and activate the retina's cones. Look at the white and the black print *one at a time*; look at the white for a while, then return to the black print and read it. Move back to the white, then return to the black print again, read it. The rule to remember is; Do not read by keeping the eyes 'exact central field/fovea' constantly on the thin white line (or white space.) To see the print clear; read by looking directly at it; *Central-Fixation*. With *Relaxation*.

Read more about the white glow *Halos,* seeing clear with the contrast produced by black and white on page 144, page 420 in the eyecharts chapter, page 333 and chapters in the e-books on the website. Included in this book are black pages with white small and fine print. White has many effects that light/sunlight produce on/in the eyes; it activates the retina, its cones, rods, macula/fovea, nerves, energy.., relaxes the mind, eyes and is easy to see. Helpful when the vision is extremely blurred.

"PAGE TWO"

ON page two of this magazine are printed each month specific directions for improving the sight in various ways. Too many subscribers read the magazine once and then mislay it. We feel that at least page two should be kept for reference.

When the eyes are neglected the vision may fail. It is so easy to forget how to palm successfully. The long swing always helps but it has to be done right. One may under adverse conditions suffer a tension so great that the ability to remember or imagine perfectly is modified or lost and relaxation is not obtained. The long swing is always available and always brings sufficient relief to practice the short swing, central fixation, the perfect memory and imagination with perfect relief.

Be sure and review page two frequently; not only for your special benefit but also for the benefit of individuals you desire to help!

Persons with imperfect sight often have difficulty in obtaining relaxation by the various methods described in the book and in this magazine. It should be emphasized that persons with good vision are better able to help others than people who have imperfect sight or wear glasses. If you are trying to cure yourself avoid people who wear glasses or do not see well. Those individuals are always under a strain and the strain is manifested in their face, in their voices, in their walk, the way they sit, in short in everything that they do.

Strain is contagious. Teachers in Public Schools who wear glasses are a menace to their pupils' sight. Parents who wear glasses or who have imperfect sight lower the vision of their children. It is always well when treating children or adults to keep them away from people with imperfect sight.

Dr. W. H. Bates
7-8-1924

This may be Dr. Bates signature.

Entire 132 PAGE TWO Training Articles from Dr. Bates' Better Eyesight Magazine, in the Original Antique Print. Free on the website; www.cleareyesight-batesmethod.info

HALOS.—When the sight is normal and when one regards a letter of the Snellen Card with a white center, the white part of the letter appears whiter than it really is and whiter than the rest of the card. I use the word Halos for this illusion. This is an illusion which can be demonstrated quite readily by covering over the black part of a letter with a screen with an opening slightly smaller than the white part of the letter, which permits the center of the letter to be observed. When this is done the white center of the letter is the same shade of whiteness as the rest of the card. Some people can imagine the illusion when it is described to them. When reading fine print the spaces between the lines appear whiter than the rest of the card, but only when the vision is good. As a general rule when one can imagine these white spaces between the lines are whiter than the rest of the card, Halos, the black appears more perfectly black and the letters can be read with normal vision. Halos are imagined, not seen. Imagination of the illusion of the Halos is a quick cure of myopia and astigmatism, as well as other cases of imperfect sight.

I am annoyed with myself when I realize how many years it required before I had brains enough to notice the Halos. It seems to me that I must have been awfully stupid to have failed to have noticed them for such a long time. All persons who have normal sight are always able to demonstrate the Halos. All persons with imperfect sight are cured, temporarily or permanently, when they become able to imagine the Halos.

Read Fine Print

ALL of our imperfect sight is just the result of our using our eyes wrong, and permitting bad habits to grow on us. Staring is only a bad habit, but it causes a great deal of trouble. When it is stopped and the eyes are rested by palming and blinking, the sight is immediately benefited.

Bad habit number two: The reading of large type in preference to finer print. It requires more of an effort to see a large letter than a small one, strange as it may seem. When you look at the big C on the Snellen Test Card, you don't see it all at once. You have to look at one part best, the hook on the upper right hand corner or the curve on the left side. You cannot look at the hook, the space on the right and the curve on the left side all at once. Some people think they see it at the same time, but they do not. Their eyes shift from one point to another, unconsciously.

Fine print is a benefit because it cannot be read while the eyes are under a strain. They have to be relaxed. For instance, in reading the chapter printed below, you cannot accomplish anything by staring at the letters, or screwing your face into a knot. Do not look at the letters but at the white spaces between them, and imagine them whiter than the margin. Blink and shift constantly to avoid the stare. If your eyes feel strained, stop and palm. You will notice that where it all looked blurred before, a word will appear clear and distinct. By constant practice more words clear up, until the entire chapter can be read easily.

S. MATTHEW 4
BEATITUDES

RELAXATION FROM FINE PRINT

A BUSINESS card, 3″ x 2″ with fine print on one side is held in front of the eyes as near as possible, the upper part in contact with the eyebrows, the lower part resting lightly on the nose.

The patient looks directly at the fine print without trying to see. Being so close to the eyes most people realize that it is impossible to read the fine print and do not try, in this way they obtain a measure of relaxation which is sufficient to benefit the sight very much.

The patient moves the card from side to side a short distance slowly and sees the card moving provided the movement is not too short or too slow. The shorter the movement and the slower it is, the better.

Some patients, although the card is held very close, note that the white spaces between the lines become whiter and the black letters become blacker and clearer. In some cases one or more words of the fine print will be seen in flashes or even continuously as long as no effort is made to see or to read the fine print.

This movement of the card should be kept up to obtain the best results, for many hours every day. The hand which holds the card may soon become fatigued; one may then use the hands alternately Some patients vary this by holding the card with both hands at the same time.

The amount of light is not important.

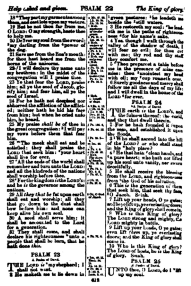
For the PDF E-books; Do not *practice* reading fine or any print on the computer screen. Print the book pages and read in the sunlight. Print on highest, best quality. Lowering the setting a little bit brings a perfect, clear printout. The size of the print can be adjusted by printing multiple pages on one page.

Computer screens cause strain in the mind, eyes. Over-use can lead to unclear eyesight. The screen contains artificial 3-D; images appear to be at different distances, to have texture, shadow... but in realty the images are all at one distance, one flat area. This confuses, strains the brain, visual system-eyes and impairs natural accommodation, un-accommodation, convergence, divergence and optimum eye movement. Looking at one close distance for hours tenses and lowers the eyes' movement and can cause one eye to be dominant-clearest up close. Imbalance in the eyes movement, focus at various distances occurs. The computer mouse and typing tenses the shoulder and neck muscles. This resonates into the head and eye muscles. Look to the distance often when using the computer. Place mirrors, reflections of a distant view to look at near the screen. Sit near and look out of a open window with sunlight. Stand up, take a walk, move, stretch, go outside in the sun and look at *real* objects at close, middle, far distances.

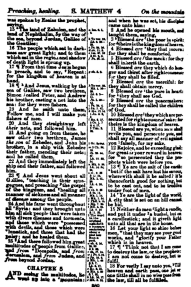
(When you must use the computer for work...; small and fine print IS most healthy, as long as you don't squint-make an effort to see it. Use the Bates Method, reading fine print on real paper to improve the vision so you can easily see small print on the computer. Monitor 2+ feet away. For *practice* of reading fine print or reading books; print it and read on paper. Do not practice on the computer.)

AIDS TO PERFECT SIGHT BY TREATMENT WITHOUT GLASSES

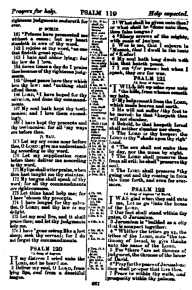
Psalm 23
A Psalm of David



S. Matthew 4
Beatitudes



Psalm 119



INSTRUCTIONS

Dr. W. H. Bates has made many remarkable discoveries relative to the prevention and cure of imperfect sight without the aid of glasses during his thirty-eight years of research and experimental work. Among the most important of these discoveries, and one that he has proved again and again, is the following:

FINE PRINT IS A BENEFIT TO THE EYE—LARGE PRINT IS A MENACE.

It is impossible to read microscopic or very fine print by **making an effort to see it.** It can only be read when the mind and eyes are relaxed.

The above chapters are written in diamond and microscopic type. At first it may seem difficult to become accustomed to the fine print, but by looking at it without **trying** to read it, the print will become discernible.

Some people find it beneficial to imagine the white spaces between the lines, whiter than the margin. When one imagines the white spaces perfectly white, the print becomes very black and legible, apparently of its own volition.

Large print is detrimental to perfect sight because the eye tries to see the whole letter at once. When one is looking at an object, for instance, a chair, the object blurs if the whole is seen at once. You cannot possibly see the arms, legs, back and body of a chair all at once. You either see the back first or the seat. This is Central Fixation. Seeing best where you are looking.

We know that if these instructions are carefully followed, the above articles will prove extremely beneficial.

Copyright, 1923, by
W. H. BATES, M.D.
New York

Psalm 23
A Psalm of David

Help asked and given. PSALM 22 *The King of glory.*

18 They part my garments among
them, and cast lots upon my vesture.
19 But be not thou far from me,
O LORD: O my strength, haste thee
to help me.
20 Deliver my soul from the sword;
my darling from the power of
the dog.
21 Save me from the lion's mouth:
for thou hast heard me from the
horns of the unicorns.
22 I will declare thy name unto
my brethren: in the midst of the
congregation will I praise thee.
23 Ye that fear the LORD, praise
him; all ye the seed of Jacob, glorify
him; and fear him, all ye the
seed of Israel.
24 For he hath not despised nor
abhorred the affliction of the afflicted;
neither hath he hid his face
from him; but when he cried unto
him, he heard.
25 My praise *shall be* of thee in
the great congregation: I will pay
my vows before them that fear
him.
26 The meek shall eat and be
satisfied: they shall praise the
LORD that seek him: your heart
shall live for ever.
27 All the ends of the world shall
remember and turn unto the LORD:
and all the kindreds of the nations
shall worship before thee.
28 For the kingdom *is* the LORD's:
and he *is* the governor among the
nations.
29 All *they that be fat* upon earth
shall eat and worship: all they
that go down to the dust shall
bow before him: and none can
keep alive his own soul.
30 A seed shall serve him; it
shall be accounted to the Lord
for a generation.
31 They shall come, and shall
declare his righteousness unto a
people that shall be born, that he
hath done *this*.

PSALM 23

A Psalm of David.

THE LORD *is* my shepherd; I
shall not want.
2 He maketh me to lie down in
green pastures: he leadeth me
beside the still waters.
3 He restoreth my soul: he leadeth
me in the paths of righteousness
for his name's sake.
4 Yea, though I walk through the
valley of the shadow of death, I
will fear no evil: for thou *art*
with me; thy rod and thy staff
they comfort me.
5 Thou preparest a table before
me in the presence of mine enemies:
thou anointest my head
with oil; my cup runneth over.
6 Surely goodness and mercy shall
follow me all the days of my life:
and I will dwell in the house of the
LORD for ever.

PSALM 24

A Psalm of David.

THE earth *is* the LORD's, and
the fulness thereof; the world,
and they that dwell therein.
2 For he hath founded it upon
the seas, and established it upon
the floods.
3 Who shall ascend into the hill
of the LORD? or who shall stand
in his holy place?
4 He that hath clean hands, and
a pure heart; who hath not lifted
up his soul unto vanity, nor sworn
deceitfully.
5 He shall receive the blessing
from the LORD, and righteousness
from the God of his salvation.
6 This *is* the generation of them
that seek him, that seek thy face,
O Jacob. Selah.
7 Lift up your heads, O ye gates;
and be ye lifted up, ye everlasting doors;
and the King of glory shall come in.
8 Who *is* this King of glory?
The LORD strong and mighty, the
LORD mighty in battle.
9 Lift up your heads, O ye gates;
even lift *them* up, ye everlasting
doors; and the King of glory shall
come in.
10 Who is this King of glory?
The LORD of hosts, he *is* the King
of glory. Selah.

PSALM 25

A Psalm of David.

UNTO thee, O LORD, do I lift
up my soul.

612

S. Matthew 4
Beatitudes

Preaching, healing. S. MATTHEW 4 *On the mountain*

was spoken by Esaias the prophet,
saying,
15 The land of Zabulon, and the
land of Nephthalim, by the way of
the sea, beyond Jordan, Galilee of
the Gentiles;
16 The people which sat in darkness
saw great light; and to them
which sat in the region and shadow
of death light is sprung up.
17 ¶ From that time Jesus began
to preach, and to say, Repent:
for the kingdom of heaven is at
hand.
18 ¶ And Jesus, walking by the
sea of Galilee, saw two brethren,
Simon called Peter, and Andrew
his brother, casting a net into the
sea: for they were fishers.
19 And he saith unto them,
Follow me, and I will make you
fishers of men.
20 And they straightway left
their nets, and followed him.
21 And going on from thence, he
saw other two brethren, James
the son of Zebedee, and John his
brother, in a ship with Zebedee
their father, mending their nets;
and he called them.
22 And they immediately left the
ship and their father, and followed
him.
23 ¶ And Jesus went about all
Galilee, teaching in their synagogues,
and preaching the gospel
of the kingdom, and healing all
manner of sickness and all manner
of disease among the people.
24 And his fame went throughout
all Syria: and they brought unto
him all sick people that were taken
with divers diseases and torments,
and those which were possessed
with devils, and those which were
lunatick, and those that had the
palsy; and he healed them.
25 And there followed him great
multitudes of people from Galilee,
and from Decapolis, and from
Jerusalem, and from Judea, and
from beyond Jordan.

CHAPTER 5

AND seeing the multitudes, he
went up into a mountain:
and when he was set, his disciples
came unto him:
2 And he opened his mouth, and
taught them, saying,
3 Blessed are the poor in spirit:
for theirs is the kingdom of heaven.
4 Blessed are they that mourn:
for they shall be comforted.
5 Blessed are the meek: for they
shall inherit the earth.
6 Blessed are they which do hunger
and thirst after righteousness:
for they shall be filled.
7 Blessed are the merciful: for
they shall obtain mercy.
8 Blessed are the pure in heart:
for they shall see God.
9 Blessed are the peacemakers:
for they shall be called the children
of God.
10 Blessed are they which are persecuted
for righteousness' sake: for
theirs is the kingdom of heaven.
11 Blessed are ye, when men shall
revile you, and persecute you, and
shall say all manner of evil against
you falsely, for my sake.
12 Rejoice, and be exceeding glad:
for great is your reward in heaven:
for so persecuted they the
prophets which were before you.
13 ¶ Ye are the salt of the earth:
but if the salt have lost his savour,
wherewith shall it be salted? it is
thenceforth good for nothing, but
to be cast out, and to be trodden
under foot of men.
14 Ye are the light of the world.
A city that is set on an hill cannot
be hid.
15 Neither do men light a candle,
and put it under a bushel, but on
a candlestick; and it giveth light
unto all that are in the house.
16 Let your light so shine before
men, that they may see your good
works, and glorify your Father
which is in heaven.
17 ¶ Think not that I am come
to destroy the law, or the prophets:
I am not come to destroy, but to
fulfil.
18 For verily I say unto you, Till
heaven and earth pass, one jot or
one tittle shall in no wise pass from
the law, till all be fulfilled.

980

Psalm 119

Prayers for help. PSALM 119 *Help expected.*

righteous judgments endureth for
ever.

ע SCHIN.

161 Princes have persecuted me
without a cause: but my heart
standeth in awe of thy word.
162 I rejoice at thy word, as one
that findeth great spoil.
163 I hate and abhor lying: but
thy law do I love.
164 Seven times a day do I praise
thee because of thy righteous judgments.
165 Great peace have they which
love thy law: and nothing shall
offend them.
166 LORD, I have hoped for thy
salvation, and done thy commandments.
167 My soul hath kept thy testimonies;
and I love them exceedingly.
168 I have kept thy precepts and
thy testimonies: for all my ways
are before thee.

ת TAU.

169 Let my cry come near before
thee, O LORD: give me understanding
according to thy word.
170 Let my supplication come
before thee: deliver me according
to thy word.
171 My lips shall utter praise, when
thou hast taught me thy statutes.
172 My tongue shall speak of thy
word: for all thy commandments
are righteousness.
173 Let thine hand help me; for
I have chosen thy precepts.
174 I have longed for thy salvation,
O LORD; and thy law is my
delight.
175 Let my soul live, and it shall
praise thee; and let thy judgments
help me.
176 I have gone astray like a lost
sheep; seek thy servant; for I do
not forget thy commandments.

PSALM 120

A Song of degrees.

IN my distress I cried unto the
LORD, and he heard me.
2 Deliver my soul, O LORD, from
lying lips, and from a deceitful
tongue.
3 What shall be given unto thee?
or what shall be done unto thee,
thou false tongue?
4 Sharp arrows of the mighty,
with coals of juniper.
5 Woe is me, that I sojourn in
Mesech, that I dwell in the tents
of Kedar!
6 My soul hath long dwelt with
him that hateth peace.
7 I am for peace: but when I
speak, they are for war.

PSALM 121

A Song of degrees.

I WILL lift up mine eyes unto
the hills, from whence cometh
my help.
2 My help cometh from the LORD,
which made heaven and earth.
3 He will not suffer thy foot to
be moved: he that keepeth thee
will not slumber.
4 Behold, he that keepeth Israel
shall neither slumber nor sleep.
5 The LORD is thy keeper: the
LORD is thy shade upon thy right
hand.
6 The sun shall not smite thee
by day, nor the moon by night.
7 The LORD shall preserve thee
from all evil: he shall preserve thy
soul.
8 The LORD shall preserve thy
going out and thy coming in from
this time forth, and even for evermore.

PSALM 122

A Song of degrees of David.

I WAS glad when they said unto
me, Let us go into the house
of the LORD.
2 Our feet shall stand within thy
gates, O Jerusalem.
3 Jerusalem is builded as a city
that is compact together:
4 Whither the tribes go up, the
tribes of the LORD, unto the testimony
of Israel, to give thanks
unto the name of the LORD.
5 For there are set thrones of
judgment, the thrones of the house
of David.
6 Pray for the peace of Jerusalem:
they shall prosper that love thee.
7 Peace be within thy walls, and
prosperity within thy palaces.

967

Read Fine Print

MANY near-sighted patients can read fine print or diamond type at less than ten inches from their eyes easily, perfectly and quickly, by alternately regarding the Snellen test card at different distances, from three feet up to fifteen feet or further. The vision may be improved, at first temporarily, and later, by repetition, a permanent gain usually follows.

It is a valuable fact to know, that when fine print is read perfectly, the near-sightedness or myopia disappears during this period. It can only be maintained at first for a fraction of a second, and later more continuously.

Near-sighted patients and others, with the help of the fine print can usually demonstrate that staring at a small letter always lowers the vision, and that the same fact is true when regarding distant letters or objects.

With the help of the fine print, the near-sighted patient can also demonstrate that one can remember perfectly only what has been seen perfectly; that one imagines perfectly only what is remembered perfectly, and that perfect sight is only a perfect imagination.

A great many people are very suspicious of the imagination, and feel or believe that things imagined are never true. The more ignorant the patient, the less respect do they have for their imagination, or the imagination of other people. It comes to them as a great shock, with a feeling of discomfort, to discover that the perfect imagination of a known letter improves the sight for unknown letters of the Snellen test card, or for other objects.

It is a fact, that one can read fine print perfectly, with perfect relaxation, with great relief to eyestrain, pain fatigue and discomfort, not only of the eyes, but of all other nerves of the body.

Fine Print a Benefit to the Eye

Seven Truths of Normal Sight

1--Normal Sight can always be demonstrated in the normal eye, but only under favorable condition.
2--Central Fixation: The letter or part of the letter regarded is always seen best.
3--Shifting: The point regarded changes rapidly and continuously.
4--Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions, with a pendulum-like motion.
5--Memory is perfect. The color and background of the letters, or other objects seen, are remembered perfectly, instantaneously and continuously.
6--Imagination is good. One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, size, or form, of the letters.
7--Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

It is impossible to read fine print without relaxing. Therefore the reading of such print, contrary to what is generally believed, is a great benefit to the eyes. Persons who can read perfectly fine print, like the above specimen, are relieved of pain and fatigue while they are doing it, and this relief is often permanent. Persons who cannot read it are benefited by observing its blackness, and remembering it with the eyes open and closed alternately. By bringing the print so near to the eyes that it cannot be read pain is sometimes relieved instantly, because when the patient realizes that there is no possibility of reading it the eyes do not try to do so. In myopia, however, it is sometimes a benefit to strain to read fine print. Persons who can read fine print perfectly imagine that they see between the lines streaks of white whiter than the margin of the page, and persons who cannot read it also see these streaks, but not so well. When the patient becomes able to increase the vividness of these appearances [see *Halos,* February number] the sight always improves.

RELAXATION FROM FINE PRINT

A BUSINESS card, 3″ x 2″ with fine print on one side is held in front of the eyes as near as possible, the upper part in contact with the eyebrows, the lower part resting lightly on the nose.

The patient looks directly at the fine print without trying to see. Being so close to the eyes most people realize that it is impossible to read the fine print and do not try, in this way they obtain a measure of relaxation which is sufficient to benefit the sight very much.

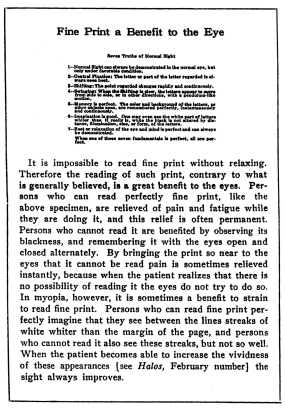
The patient moves the card from side to side a short distance slowly and sees the card moving provided the movement is not too short or too slow. The shorter the movement and the slower it is, the better.

Some patients, although the card is held very close, note that the white spaces between the lines become whiter and the black letters become blacker and clearer. In some cases one or more words of the fine print will be seen in flashes or even continuously as long as no effort is made to see or to read the fine print.

This movement of the card should be kept up to obtain the best results, for many hours every day. The hand which holds the card may soon become fatigued; one may then use the hands alternately Some patients vary this by holding the card with both hands at the same time.

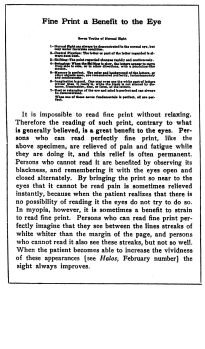
The amount of light is not important.

Reading fine print keeps the lens' ciliary muscle and the lens, iris, eye and outer eye muscles healthy and mobile; the ciliary adjusting the lens shape/curvature and outer muscles adjusting the eyes' length for clear eyesight at close, middle and far distances. Circulation in the eye, lens... and eye shifting, centralizing, accommodation, convergence, un-accommodation, divergence is maintained in perfect function for life. Along with practice of the entire Bates Method and avoiding eyeglasses; fine print can prevent and reverse presbyopia, cataract and other eye problems.

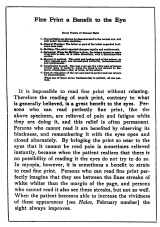

Fine Print a Benefit to the Eye

Seven Truths of Normal Sight

It is impossible to read fine print without relaxing. Therefore the reading of such print, contrary to what is generally believed, is a great benefit to the eyes. Persons who can read perfectly fine print, like the above specimen, are relieved of pain and fatigue while they are doing it, and this relief is often permanent. Persons who cannot read it are benefited by observing its blackness, and remembering it with the eyes open and closed alternately. By bringing the print so near to the eyes that it cannot be read pain is sometimes relieved instantly, because when the patient realizes that there is no possibility of reading it the eyes do not try to do so. In myopia, however, it is sometimes a benefit to strain to read fine print. Persons who can read fine print perfectly imagine that they see between the lines streaks of white whiter than the margin of the page, and persons who cannot read it also see these streaks, but not so well. When the patient becomes able to increase the vividness of these appearances [see *Halos,* February number] the sight always improves.


Fine Print a Benefit to the Eye

It is impossible to read fine print without relaxing. Therefore the reading of such print, contrary to what is generally believed, is a great benefit to the eyes. Persons who can read perfectly fine print, like the above specimen, are relieved of pain and fatigue while they are doing it, and this relief is often permanent. Persons who cannot read it are benefited by observing its blackness, and remembering it with the eyes open and closed alternately. By bringing the print so near to the eyes that it cannot be read pain is sometimes relieved instantly, because when the patient realizes that there is no possibility of reading it the eyes do not try to do so. In myopia, however, it is sometimes a benefit to strain to read fine print. Persons who can read fine print perfectly imagine that they see between the lines streaks of white whiter than the margin of the page, and persons who cannot read it also see these streaks, but not so well. When the patient becomes able to increase the vividness of these appearances [see *Halos,* February number] the sight always improves.


Fine Print a Benefit to the Eye

It is impossible to read fine print without relaxing. Therefore the reading of such print, contrary to what is generally believed, is a great benefit to the eyes. Persons who can read perfectly fine print, like the above specimen, are relieved of pain and fatigue while they are doing it, and this relief is often permanent. Persons who cannot read it are benefited by observing its blackness, and remembering it with the eyes open and closed alternately. By bringing the print so near to the eyes that it cannot be read pain is sometimes relieved instantly, because when the patient realizes that there is no possibility of reading it the eyes do not try to do so. In myopia, however, it is sometimes a benefit to strain to read fine print. Persons who can read fine print perfectly imagine that they see between the lines streaks of white whiter than the margin of the page, and persons who cannot read it also see these streaks, but not so well. When the patient becomes able to increase the vividness of these appearances [see *Halos,* February number] the sight always improves.

BETTER EYESIGHT MAGAZINE

Back numbers may be obtained here which contain articles on the cause and cure of the following defects:
Myopia, Squint, Glaucoma, Cataract, Pain, Blindness, Presbyopia and Retinitis Pigmentosa.
These articles include instructions for treatment.

Bound Volumes

Each volume contains one year's issue of twelve magazines.

Price, $3.50.

Burning Glass

If you notice a strain on your eyes, after emerging from a building into the sunlight, you need the Burning Glass. If the light feels uncomfortable, or if you cannot look up at the sun, the burning glass will help you. Instructions are issued on request.
If you need it, send for it today. Price $5.00.

Fine Print for Relaxation

The Bible has been reduced from $2.50 to $2.00. Read what Dr. Bates says about fine and microscopic type, then get a Bible. This unique book measures only one by one and a half inches, and contains the Old and New Testament.

The Booklet

of fine print contains three chapters from the small Bible, together with "The Seven Truths of Normal Sight" as discovered by Dr. Bates. Instructions are also printed in the front of the book. Price 25c.

Test Cards

These prove invaluable in practicing Dr. Bates' method. Instructions issued. Can be used to test the eyes, follow progress, and improve sight.

50c—75c.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

Have You a Bible?

You all know fine print is beneficial.
Do you practice reading it?
Doctor Bates has proven that by reading a few lines of very fine print daily you are giving your eyes the relaxing "exercise" that will tend to prevent many common defects.
We publish a Bible that is printed in microscopic type, and measures one by one and a half inches and contains the new and old Testament.
Many patients past fifty have learned to read this with ease. Send for yours today.

Price $4.00

Snellen Test Cards

THERE should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when sight is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

PAPER ..... 50 CENTS
CARDBOARD (*folding*) 75 CENTS
DELIVERED

Back numbers BETTER EYESIGHT.....$ .30
Bound vols., 1st, 2nd and 3rd years, each.. 4.25
Photographic reduction of the Bible..... 4.00
Ophthalmoscopes, with and without Battery, from .....10.00 to 50.00
Retinoscopes 4.00
Burning glasses 5.00
Reprints of articles by Dr. Bates in other medical journals: a limited number for sale. Send for list.

For Sale By
Central Fixation Publishing Company
383 Madison Avenue, New York City

How to Use the Snellen Test Card
FOR THE
Prevention and Cure of Imperfect Sight in Children

The Snellen Test Card is placed permanently upon the wall of the classroom, and every day the children silently read the smallest letters they can see from their seats with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. This takes no appreciable amount of time, and is sufficient to improve the sight of all children in one week and to cure all errors of refraction after some months, a year, or longer.

Children with markedly defective vision should be encouraged to read the card more frequently.

Records may be kept as follows:

John Smith, 10, Sept. 15, 1918.
R. V. (vision of the right eye) 20/40.
L. V. (vision of the left eye) 20/20.

John Smith, 11, Jan. 1, 1919.
R. V. 20/30.
L. V. 20/15.

The numerator of the fraction indicates the distance of the test card from the pupil; the denominator denotes the line read, as designated by the figures printed above the middle of each line of the Snellen Test Card.

A certain amount of supervision is absolutely necessary. At least once a year some one who understands the method should visit each classroom for the purpose of answering questions, encouraging the teachers to continue the use of the method, and making a report to the proper authorities.

It is not necessary that either the inspector, the teachers, or the children, should understand anything about the physiology of the eye.

The Fundamental Principle

THE FLASHING CURE

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

THE SWINGING CURE

If you see a letter perfectly, you may note that it appears to pulsate, or move slightly in various directions. If your sight is imperfect, the letter will appear to be stationary. The apparent movement is caused by the unconscious shifting of the eye. The lack of movement is due to the fact that the eye stares, or looks too long at one point. This is an invariable symptom of imperfect sight, and may often be relieved by the following method:

Close your eyes and cover them with the palms of the hands so as to exclude all the light, and shift mentally from one side of a black letter to the other. As you do this, the mental picture of the letter will appear to move back and forth in a direction contrary to the imagined movement of the eye. Just so long as you imagine that the letter is moving, or swinging, you will find that you are able to remember it, and the shorter and more regular the swing, the blacker and more distinct the letter will appear. If you are able to imagine the letter stationary, which may be difficult, you will find that your memory of it will be much less perfect.

Now open your eyes and look first at one side and then at the other of the real letter. If it appears to move in a direction opposite to the movement of the eye, you will find that your vision has improved. If you can imagine the swing of the letter as well with your eyes open as with your eyes closed, as short, as regular and as continuous, your vision will be normal.

THE MEMORY CURE

When the sight is perfect, the memory is also perfect, because the mind is perfectly relaxed. Therefore the sight may be improved by any method that improves the memory. The easiest thing to remember is a small black spot of no particular size and form; but when the sight is imperfect it will be found impossible to remember it with the eyes open and looking at letters, or other objects with definite outlines. It may, however, be remembered for a few seconds or longer, when the eyes are closed and covered, or when looking at a blank surface where there is nothing particular to see. By cultivating the memory under these favorable conditions, it gradually becomes possible to retain it under unfavorable ones, that is, when the eyes are open and the mind conscious of the impressions of sight. By alternately remembering the period with the eyes closed and covered and then looking at the Snellen test card, or other letters or objects; or by remembering it when looking away from the card where there is nothing particular to see, and then looking back; the patient becomes able, in a longer or shorter time, to retain the memory when looking at the card, and thus becomes able to read the letters with normal vision. Many children have been cured very quickly by this method. Adults who have worn glasses have greater difficulty. Even under favorable conditions, the period cannot be remembered for more than a few seconds, unless one shifts from one part of it to another. One can also shift from one period, or other small black object, to another.

THE IMAGINATION CURE

When the imagination is perfect the mind is always perfectly relaxed, and as it is impossible to relax and imagine a letter perfectly, and at the same time strain and see it imperfectly, it follows that when one imagines that one sees a letter perfectly one actually does see it, as demonstrated by the retinoscope, no matter how great an error of refraction the eye may previously have had. The sight, therefore, may often be improved very quickly by the aid of the imagination. To use this method the patient may proceed as follows:

Look at a letter at the distance at which it is seen best. Close and cover the eyes so as to exclude all the light, and remember it. Do this alternately until the memory is nearly equal to the sight. Next, after remembering the letter with the eyes closed and covered, and while still holding the mental picture of it, look at a blank surface a foot or more to the side of it, at the distance at which you wish to see it. Again close and cover the eyes and remember the letter, and on opening them look a little nearer to it. Gradually reduce the distance between the point of fixation and the letter, until able to look directly at it and imagine it as well as it is remembered with the eyes closed and covered. The letter will then be seen perfectly, and other letters in its neighborhood will come out. If unable to remember the whole letter, you may be able to imagine a black period as forming part of it. If you can do this, the letter will also be seen perfectly.

THE PALMING CURE

One of the most efficacious methods of relieving eyestrain, and hence of improving the sight, is palming. By this is meant the covering of the closed eyes with the palms of the hands in such a way as to exclude all the light, while avoiding pressure upon the eyeballs. In this way most patients are able to secure some degree of relaxation in a few minutes, and when they open their eyes find their vision temporarily improved.

When relaxation is complete the patient sees, when palming, a black so deep that it is impossible to remember or imagine anything blacker, and such relaxation is always followed by a complete and permanent cure of all errors of refraction (nearsight, farsight, astigmatism and even old sight), as well as by the relief or cure of many other abnormal conditions. In rare cases patients become able to see a perfect black very quickly, even in five, ten or fifteen minutes; but usually this cannot be done without considerable practice, and some never become able to do it until they have been cured by other means. When the patient becomes able after a few trials to see an approximate black, it is worth while to continue with the method; otherwise something else should be tried.

Most patients are helped by the memory of some color, preferably black, and as it is impossible to remember an unchanging object for more than a few seconds, they usually find it necessary to shift consciously from one mental picture to another, or from one part of such a picture to another. In some cases, however, the shifting may be done unconsciously, and the black object may appear to be remembered all alike continuously.

HALOS

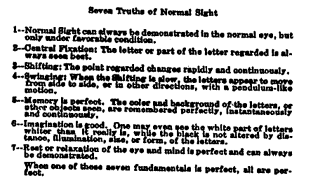
When the eye with normal sight looks at the large letters on the Snellen test card, at any distance from twenty feet to six inches or less, it sees, at the inner and outer edges and in the openings of the round letters, a white more intense than the margin of the card. Similarly, when such an eye reads fine print, the spaces between the lines and the letters and the openings of the letters appear whiter than the margin of the page, while streaks of an even more intense white may be seen along the edges of the lines of letters. These "halos" are sometimes seen so vividly that in order to convince people that they are illusions it is often necessary to cover the letters, when they at once disappear. Patients with imperfect sight also see the halos, though less perfectly, and when they understand that they are imagined, they often become able to imagine them where they had not been seen before, or to increase their vividness, in which case the sight always improves. This can be done by imagining the appearances first with the eyes closed, and then looking at the card, or at fine print, and imagining them there. By alternating these two acts of imagination the sight is often improved rapidly. It is best to begin the practice at the point at which the halos are seen, or can be imagined best. Nearsighted patients are usually able to see them at the near-point, sometimes very vividly. Farsighted people may also see them best at this point, although their sight for form may be best at the distance.

INFLUENZA—A QUICK CURE

When the muscles of the eyes are perfectly relaxed all errors of refraction are not only corrected, but abnormal conditions in other parts of the body are also relieved. It is impossible to relax the muscles of the eyes without relaxing every other muscle in the body. When people have colds or influenza the muscles that control the circulation in the affected parts are under a strain, the arteries are contracted, and the heart is not able to force the normal amount of blood through them. The blood consequently accumulates in the veins and produces inflammation. Hence any treatment which relaxes the muscles of the eyes sufficiently to produce central fixation and normal vision will cure colds and influenza. When one palms perfectly, shifts easily, or has a perfect universal swing, not only the muscles which control the refraction, but the muscles of the arteries which control the circulation of the eyes, nose, lungs, kidneys, etc., are relaxed, and all symptoms of influenza disappear. The nasal discharge ceases as if by magic, the cough is at once relieved, and if the nose has been closed, it opens. Pain, fatigue, fever and chilliness are also relieved. The truth of these statements has been repeatedly demonstrated.

The Editor is very proud of this discovery which is now published for the first time.

Fine Print a Benefit to the Eye


Seven Truths of Normal Sight

1—Normal Sight can always be demonstrated in the normal eye, but only under favorable condition.
2—Central Fixation: The letter or part of the letter regarded is always seen best.
3—Shifting: The point regarded changes rapidly and continuously.
4—Swinging: When the shifting is slow, the letters appear to move from side to side, or in other directions, with a pendulum-like motion.
5—Memory is perfect. The color and background of the letters, or any colorless spot, are remembered perfectly, instantaneously and continuously.
6—Imagination is good. One may even see the white part of letters whiter than it really is, while the black is not altered by distance, illumination, glass, or form, of the letters.
7—Rest or relaxation of the eye and mind is perfect and can always be demonstrated.

When one of these seven fundamentals is perfect, all are perfect.

It is impossible to read fine print without relaxing. Therefore the reading of such print, contrary to what is generally believed, is a great benefit to the eyes. Persons who can read perfectly fine print, like the above specimen, are relieved of pain and fatigue while they are doing it, and this relief is often permanent. Persons who cannot read it are benefited by observing its blackness, and remembering it with the eyes open and closed alternately. By bringing the print so near to the eyes that it cannot be read pain is sometimes relieved instantly, because when the patient realizes that there is no possibility of reading it the eyes do not try to do so. In myopia, however, it is sometimes a benefit to strain to read fine print. Persons who can read fine print perfectly imagine that they see between the lines streaks of white whiter than the margin of the page, and persons who cannot read it also see these streaks, but not so well. When the patient becomes able to increase the vividness of these appearances [see *Halos,* February number] the sight always improves.

REST

All methods of curing errors of refraction are simply different ways of obtaining rest.

Different persons do this in different ways. Some patients are able to rest their eyes simply by closing them, and complete cures have been obtained by this means, the closing of the eyes for a longer or shorter period being alternated with looking at the test card for a moment. In other cases patients have strained more when their eyes were shut than when they were open. Some can rest their eyes when all light is excluded from them by covering with the palms of the hands; others cannot, and have to be helped by other means before they can palm. Some become able at once to remember or imagine that the letters they wish to see are perfectly black, and with the accompanying relaxation their vision immediately becomes normal. Others become able to do this only after a considerable time. Shifting is a very simple method of relieving strain, and most patients soon become able to shift from one letter to another, or from one side of a letter to another in such a way that these forms seem to move in a direction opposite to the movement of the eye. A few are unable to do this, but can do it with a mental picture of a letter, after which they become able to do it visually.

Patients who do not succeed with any particular method of obtaining rest for their eyes should abandon it and try something else. The cause of the failure is strain, and it does no good to go on straining.

SUN-GAZING

Light is necessary to the health of the eye, and darkness is injurious to it. Eye shades, dark glasses, darkened rooms, weaken the sight and sooner or later produce inflammations. Persons with normal sight can look directly at the sun, or at the strongest artificial light, without injury or discomfort, and persons with imperfect sight are never permanently injured by such lights, though temporary ill effects, lasting from a few minutes to a few hours, days, weeks, months, or longer, may be produced. In all abnormal conditions of the eyes, light is beneficial. It is rarely sufficient to cure, but is a great help in gaining relaxation by other methods.

The quickest way to get results from the curative power of sunlight is to focus the rays with a burning glass on the white part of the eye when the patient looks far downward, moving the light from side to side to avoid heat. This may be done for part of a minute at frequent intervals.

Looking at the sun, while slower in its results, has often been sufficient to effect permanent cures, sometimes in a very short time. There is a right way and a wrong way to do this. Persons with imperfect sight should never look directly at the sun at first, because, while no permanent harm can come from it, great temporary inconvenience may result. Such persons should begin by looking to one side of the sun, and after becoming accustomed to the strong light, should look a little nearer to its source, and so on until they become able to look directly at the sun without discomfort.

SEE THINGS MOVING

When the sight is perfect the subject is able to observe that all objects regarded appear to be moving. A letter seen at the near point or at the distance appears to move slightly in various directions. The pavement comes toward one in walking, and the houses appear to move in a direction opposite to one's own. In reading the page appears to move in a direction opposite to that of the eye. If one tries to imagine things stationary, the vision is at once lowered and discomfort and pain may be produced, not only in the eyes and head, but in other parts of the body.

This movement is usually so slight that it is seldom noticed till the attention is called to it, but it may be so conspicuous as to be plainly observable even to persons with markedly imperfect sight. If such persons, for instance, hold the hand within six inches of the face and turn the head and eyes rapidly from side to side, the hand will be seen to move in a direction opposite to that of the eyes. If it does not move, it will be found that the patient is straining to see it in the eccentric field. By observing this movement it becomes possible to see or imagine a less conspicuous movement, and thus the patient may gradually become able to observe a slight movement in every object regarded. Some persons with imperfect sight have been cured simply by imagining that they see things moving all day long.

The world moves. Let it move. All objects move if you let them. Do not interfere with this movement, or try to stop it. This cannot be done without an effort which impairs the efficiency of the eye and mind.

THE CURE OF IMPERFECT SIGHT IN SCHOOL CHILDREN

While reading the Snellen test card every day will, in time, cure imperfect sight in all children under twelve who have never worn glasses, the following simple practices will insure more rapid progress:

1. Let the children rest their eyes by closing for a few minutes or longer, and then look at the test card for a few moments only, then rest again, and so on alternately. This cures many children very promptly.
2. Let them close and cover their eyes with the palms of their hands in such a way as to exclude all the light while avoiding pressure on the eyeballs (palming), and proceed as above. This is usually more effective than mere closing.
3. Let them demonstrate that all effort lowers the vision by looking fixedly at a letter on the test card, or at the near-point, and noting that it blurs or disappears in less than a minute. They thus become able, in some way, to avoid unconscious effort.

The method succeeds best when the teachers do not wear glasses.

Supervision is absolutely necessary. At least once a year some person whose sight is normal without glasses and who understands the method should visit the classrooms for the purpose of answering questions, testing the sight of the children, and making a report to the proper authorities.

The Snellen test card is a chart showing letters of graduated sizes, with numbers indicating the distance in feet at which each line should be read by the normal eye. Originally designed by Snellen for the purpose of testing the eye, it is admirably adapted for use in eye education.

MAKE YOUR SIGHT WORSE

Strange as it may seem there is no better way of improving the sight than by making it worse. To see things worse when one is already seeing them badly requires mental control of a degree greater than that required to improve the sight. The importance of these facts is very great. When patients become able to lower their vision by conscious staring, they become better able to avoid unconscious staring. When they demonstrate by increasing their eccentric fixation that trying to see objects not regarded lowers the vision, they may stop trying to do the same thing unconsciously.

What is true of the sight is also true of the imagination and memory. If one's memory and imagination are imperfect, they can be improved by consciously making them worse than they are. Persons with imperfect sight never remember or imagine the letters on the test card as perfectly black and distinct, but to imagine them as grey and cloudy is very difficult, or even impossible, and when a patient has done it, or tried to do it, he may become able to avoid the unconscious strain which has prevented him from forming mental pictures as black and distinct as the reality.

To make imperfect sight worse is always more difficult than to lower normal vision. In other words, to make a letter which already appears grey and indistinct noticeably more cloudy is harder than to blur a letter seen distinctly. To make an imperfect mental picture worse is harder than to blur a perfect one. Both practices require much effort, much hard disagreeable work; but they always, when successful, improve the memory, imagination and vision.

GO TO THE MOVIES

Cinematograph pictures are commonly supposed to be very injurious to the eyes, and it is a fact that they often cause much discomfort and lowering of vision. They can, however, be made a means of improving the sight. When they hurt the eyes it is because the subject strains to see them. If this tendency to strain can be overcome, the vision is always improved, and, if the practice of viewing the pictures is continued long enough, nearsight, astigmatism and other troubles are cured.

If your sight is imperfect, therefore, you will find it an advantage to go to the movies frequently and learn to look at the pictures without strain. If they hurt your eyes, look away to the dark for a while, then look at a corner of the picture; look away again, and then look a little nearer to the center; and so on. In this way you may soon become able to look directly at the picture without discomfort. If this does not help, try palming for five minutes or longer. Dodge the pain, in short, and prevent the eyestrain by constant shifting, or by palming.

If you become able to look at the movies without discomfort, nothing else will bother you.

MAKE YOUR SQUINT WORSE

There is no better way of curing squint than by making it worse, or by producing other kinds of squint. This can be done as follows:

To produce convergent squint, strain to see a point about three inches from the eyes, such as the end of the nose.

To produce divergent squint, fix a point at the distance to one side of any object, and strain to see it as well as when directly regarded.

To produce a vertical squint, look at a point below an object at the distance, and at the same time strain to see the latter.

To produce an oblique divergent squint, look at a point below and to one side of an object at the distance while straining to see the latter.

When successful two images will be seen arranged horizontally, vertically, or obliquely, according to the direction of the strain.

The production of convergent squint is usually easier than that of the other varieties, and most patients succeed better with a light as the object of vision than with a letter, or other non-luminous object.

VOLUNTARY PRODUCTION OF EYE TENSION A SAFEGUARD AGAINST GLAUCOMA

It is a good thing to know how to increase the tension of the eyeball voluntarily, as this enables one to avoid not only the strain that produces glaucoma, but other kinds of strain also. To do this proceed as follows:

Put the fingers on the upper part of the eyeball while looking downward, and note its softness. Then do any one of the following things:

Try to see a letter, or other object, imperfectly, or (with the eyes either closed or open) to imagine it imperfectly.

Try to see a letter, or a number of letters, all alike at one time, or to imagine them in this way.

Try to imagine that a letter, or mental picture of a letter, is stationary.

Try to see a letter, or other object, double, or to imagine it double.

When successful the eyeball will become harder in proportion to the degree of the strain; but, as it is very difficult to see, imagine, or remember, things imperfectly, all may not be able at first to demonstrate the facts.

THE TREATMENT OF CATARACT

From "A Case of Cataract," by Victoria Coolidge, in "Better Eyesight" for June, 1920.

The treatment prescribed was as follows:

Palming six times a day, a half hour or longer at a time.

Reading the Snellen test card at five, ten, and twenty feet.

Reading fine print at six inches, five minutes at a time, especially soon after rising in the morning and just before retiring at night, and reading books and newspapers.

Besides this, he was to subject his eyes, especially the left, to the sunlight whenever an opportunity offered, to drink twelve glasses of water a day, walk five miles a day, and later, when he was in better training, to run half a mile or so every day.

The results of this treatment have been most gratifying. Not only have his eyes improved steadily, but his general health has been so much benefited that at eighty-two he looks, acts and feels better and younger than he did at eighty-one.

THE PREVENTION AND CONTROL OF PAIN BY THE MIND

Anyone who has normal vision can demonstrate in a few moments that when the memory is perfect no pain is felt, and can produce pain by an attempt to keep the attention fixed on a point. To do this proceed as follows:

Look at a black letter, close the eyes and remember it. Look at the letter again and again close the eyes and remember it. Repeat until the memory is equal to the sight. Now press the nail of one finger against the tip of another. If the letter is remembered perfectly, no pain will be felt. With practice it may become possible to remember the letter with the eyes open.

Remember the letter imperfectly, with blurred edges and clouded openings, and again press the nail of one finger against the tip of another. In this case it will be found impossible to continue the pressure for more than a moment on account of the pain.

Try to remember one point of a letter continuously. It will be found impossible to do so, and if the effort is continued long enough pain will be produced.

Try to look continuously at one point of a letter or other object. If the effort is continued long enough, pain will be produced.

HOW TO OBTAIN PERCEPTION OF LIGHT IN BLINDNESS

Two things have always brought perception of light to blind patients. One is palming, and the other is the swing. The swing may take two forms:

1. Let the patient stand with feet apart, and sway the body, including the head and eyes, from side to side, while shifting the weight from one foot to the other.

2. Let him move his hand from one side to the other in front of his face, all the time trying to imagine that he sees it moving. As soon as he becomes able to do this it can be demonstrated that he really does see the movement.

Simple as these measures are they have always, either singly or together, brought relaxation, and with it perception of light, in from fifteen minutes or less to half an hour.

In palming the patient should remember that this does not bring relief unless mental relaxation is obtained, as evidenced by the disappearance of the white, grey and other colors which most blind people see at first with their eyes closed and covered.

METHODS THAT HAVE SUCCEEDED IN PRESBYOPIA

The cure of presbyopia, as of any other error of refraction, is rest, and many presbyopic patients are able to obtain this rest simply by closing the eyes. They are kept closed until the patient feels relieved, which may be in a few minutes, half an hour, or longer. Then some fine print is regarded for a few seconds. By alternately resting the eyes and looking at fine print many patients quickly become able to read it at eighteen inches, and by continued practice they are able to reduce the distance until it can be read at six inches in a dim light. At first the letters are seen only in flashes. Then they are seen for a longer time, until finally they are seen continuously. When this method fails, palming may be tried, combined with the use of the memory, imagination and swing. Particularly good results have been obtained from the following procedure:

Close the eyes and remember the letter *o* in diamond type, with the open space as white as starch and the outline as black as possible.

When the white center is at the maximum imagine that the letter is moving, and that all objects, no matter how large or small, are moving with it.

Open the eyes and continue to imagine the universal swing,

Alternate the imagination of the swing with the eyes open with its imagination with the eyes closed.

When the imagination is just as good with the eyes open as when they are closed the cure will be complete.

HOW TO IMPROVE THE SIGHT BY MEANS OF THE IMAGINATION

Remember the letter *o* in diamond type, with the eyes closed and covered. If you are able to do this, it will appear to have a short, slow swing, less than its own diameter.

Look at an unknown letter on the test card which you can see only as a gray spot, at ten feet or more, and imagine that it has a swing of not more than a quarter of an inch.

Imagine the top of the unknown letter to be straight, still maintaining the swing. If this is in accordance with the fact, the swing will be unchanged. If it is not, the swing will become uneven, or longer, or will be lost.

If the swing is altered, try another guess. If you can't tell the difference between two guesses, it is because the swing is too long. Palm and remember the *o* with its short swing, and you may become able to shorten that of the larger letter.

In this way you can ascertain, without seeing the letter, whether its four sides are straight, curved, or open. You may then be able to imagine the whole letter. This is easiest with the eyes closed and covered. If the swing is modified, you will know that you have made a mistake. In that case repeat from the beginning.

When you get the right letter imagine it alternately with the eyes closed and open, until you are able to imagine it as well when you look at it as when your eyes are closed and covered. In that case you will actually see the letter.

HOW TO DEMONSTRATE THE FUNDAMENTAL PRINCIPLE OF TREATMENT

The object of all the methods used in the treatment of imperfect sight without glasses is to secure rest or relaxation, of the mind first and then of the eyes. Rest always improves the vision. Effort always lowers it. Persons who wish to improve their vision should begin by demonstrating these facts.

Close the eyes and keep them closed for fifteen minutes. Think of nothing particular, or think of something pleasant. When the eyes are opened, it will usually be found that the vision has improved temporarily. If it has not, it will be because, while the eyes were closed, the mind was not at rest.

One symptom of strain is a twitching of the eyelids which can be seen by an observer and felt by the patient with the fingers. This can usually be corrected if the period of rest is long enough.

Many persons fail to secure a temporary improvement of vision by closing their eyes, because they do not keep them closed long enough. Children will seldom do this unless a grown person stands by and encourages them. Many adults also require supervision.

To demonstrate that strain lowers the vision, think of something disagreeable—some physical discomfort, or something seen imperfectly. When the eyes are opened, it will be found that the vision has been lowered. Also stare at one part of a letter on the test card, or try to see the whole letter all alike at one time. This invariably lowers the vision, and may cause the letters to disappear.

HOW NOT TO CONCENTRATE

To remember the letter *o* of diamond type continuously and without effort proceed as follows:

Imagine a little black spot on the right-hand side of the *o* blacker than the rest of the letter; then imagine a similar spot on the left-hand side. Shift the attention from the right-hand period to the left, and observe that every time that you think of the left period the *o* appears to move to the right, and every time you think of the right one it appears to move to the left. This motion, when the shifting is done properly, is very short, less than the width of the letter. Later you may become able to imagine the *o* without conscious shifting and swinging, but whenever the attention is directed to the matter these things will be noticed.

Now do the same with the *a* letter on the test card. If the shifting is normal, it will be noted that the letter can be regarded indefinitely, and that it appears to have a slight motion.

To demonstrate that the attempt to concentrate spoils the memory, or imagination, and the vision:

Try to think continuously of a period on one part of an imagined letter. The period and the whole letter will soon disappear. Or try to imagine two or more periods, or the whole letter, equally black and distinct at one time. This will be found to be even more difficult.

Do the same with a letter on the test card. The results will be the same.

CHILDREN MAY IMPROVE THEIR SIGHT BY CONSCIOUSLY DOING THE WRONG THING

Children often make a great effort to see the blackboard and other distant objects in school. It helps them to overcome this habit to have them demonstrate just what the strain to see does.

Tell them to fix their attention on the smallest letter they can see from their seats, to stare at it, to concentrate on it, to partly close their eyelids—in short, to make as great an effort as possible to see it.

The letter will blur, or disappear altogether, and the whole card may become blurred, while discomfort, or pain in the eyes or head, will be produced.

Now direct them to rest their eyes by palming. The pain or discomfort will cease, the letter will come out again, and other letters that they could not see before may come out also.

After a demonstration like this children are less likely to make an effort to see the blackboard, or anything else; but some children have to repeat the experiment many times before the subconscious inclination to strain is corrected.

HOW TO IMPROVE THE SIGHT BY MEANS OF THE IMAGINATION: No. 2

In a recent issue directions were given for improving the vision by the aid of the imagination. According to this method the patient ascertains what a letter is by imagining each of the four sides to be straight, curved, or open, and noting the effect of each guess upon the imagined swing of the letter. Another method which has succeeded even better with many patients is to judge the correctness of the guess by observing its effect on the appearance of the letter.

Look at a letter which can be seen only as a gray spot, and imagine the top is straight. If the guess is right, the spot will probably become blacker; if it is wrong, the spot may become fainter or disappear. If no difference is apparent, rest the eyes by looking away, closing, or palming, and try again.

In many cases, when one side has been imagined correctly, the whole letter will come out. If it does not, proceed to imagine the other sides as above directed. If, when all four sides have been imagined correctly, a letter does not come out, palm and repeat.

One can even bring out a letter that one cannot see at all in this way. Look at a line of letters which cannot be seen, and imagine the top of the first letter to be straight. If the guess is correct, the line may become apparent, and by continued practice the letter may come out clearly enough to be distinguished.

HOW TO OBTAIN MENTAL PICTURES

Look at a letter on the Snellen test card.

Remember its blackness.

Shift the attention from one part of this spot of black to another. It should appear to move in a direction contrary to the imagined movement.

If it does not, try to imagine it stationary. If you succeed in doing this it will blur, or disappear. Having demonstrated that it is impossible to imagine the spot stationary, it may become possible to imagine it moving.

Having become able to form a mental picture of a black spot with the eyes closed, try to do the same with the eyes open. Alternate till the mental vision with the eyes closed and open is the same.

Having become able to imagine a black spot try to imagine the letter *o* in diamond type with the center as white as snow. Do this alternately with eyes closed and open.

If you cannot hold the picture of a letter or period commit to memory a number of letters on the test card and recite them to yourself while imagining that the card is moving.

If some other color or object is easier to imagine than a black spot it will serve the purpose equally well.

A few exceptional people may get better results with the eyes open than when they are closed.

THE SENSE OF TOUCH AN AID TO VISION

Just as Montessori has found that impressions gained through the sense of touch are very useful in teaching children to read and write, persons with defective sight have found them useful in educating their memory and imagination.

One patient whose visual memory was very imperfect found that if she traced an imaginary black letter on the ball of her thumb with her forefinger, she could follow the imaginary lines with her mind as they were being formed and retain a picture of the letter better than when she gained the impression of it through the sense of sight.

Another patient discovered that when he lost the swing he could get it again by sliding his forefinger back and forth over the ball of his thumb. When he moved his fingers it seemed as if his whole body were moving.

Both these expedients have the advantage of being inconspicuous, and can, therefore, be used anywhere.

The vision was improved in both cases.

THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

STOP STARING

It can be demonstrated by tests with the retinoscope that all persons with imperfect sight stare, strain, or try to see. To demonstrate this fact:

Look intently at one part of a large or small letter at the distance or nearpoint. In a few seconds, usually, fatigue and discomfort will be produced, and the letter will blur or disappear. If the effort is continued long enough, pain may be produced.

To break the habit of staring:

(1) Shift consciously from one part to another of all objects regarded, and imagine that these objects move in a direction contrary to the movement of the eye. Do this with letters on the test card, with letters of fine print, if they can be seen, and with other objects.

(2) Close the eyes frequently for a moment or longer. When the strain is considerable, keep the eyes closed for several minutes and open them for a fraction of a second—flashing. When the stare is sufficient to keep the vision down to 2/200 or less, palm for a longer or shorter time; then look at the card for a moment. Later mere closing of the eyes may afford sufficient rest.

(3) Imagine that the white openings and margins of letters are whiter than the rest of the background. Do this with eyes closed and open alternately. It is an interesting fact that this practice prevents staring and improves the vision rapidly.

Note for #1; If you cannot see a letter, it is unclear; shifting on it from one blurry part to another, and looking for the contrary (opposite) movement improves the clarity of the letter.

Test Your Imagination!

WITH the eyes closed remember some letter, as, for example, a small letter o. Imagine the white center to be white as snow with the sun shining on it. Now open the eyes, look at the Snellen Test Card and imagine the white snow as well as you can for a few moments only; without noting so much the clearness of the letters on the card as your ability to imagine the snow white center, alternating as before with the Snellen Card.

Another method: With the eyes closed, remember and imagine as well as you can the first letter, which should be known, on each line of the Snellen Test Card, beginning with the larger letters. Then open your eyes and imagine the same letter for a few moments only, alternating until the known letter is imagined sufficiently well that the second letter is seen without any effort on your part.

Third method: With the eyes closed remember or imagine a small black period for part of a minute or longer. Then with the eyes open, looking at no object in particular and without trying to see, imagine in your mind the black period. Should you believe that your vision is improved, dodge it, look somewhere else. This you can practice at all times, in all places, at your work as well as when sitting quietly in your room practicing with the Snellen Test Card. When the period is imagined perfectly with the eyes open, one cannot dodge perfect sight, which comes without any effort whatsoever.

SEE THINGS MOVING

WHEN riding in a railroad train, travelling rapidly, a passenger looking out a window can imagine more or less vividly that stationary objects, trees, houses, telegraph poles, are moving past in the opposite direction. If one walks along the street, objects to either side appear to be moving. When the eyes move from side to side a long distance with or without the movement of the head or body it is possible to imagine objects not directly regarded to be moving. To see things moving avoid looking directly at them while moving the eyes.

The Long Swing: No matter how great the mental or other strain may be, one can, by moving the eyes a long distance from side to side with the movement of the head and body in the same direction, imagine things moving opposite over a wide area. The eyes or mind are benefitted.

The Short Swing: To imagine things are moving a quarter of an inch or less, gradually shorten the long swing and decrease the speed to a rate of a second or less for each swing. Another method is to remember a small letter perfectly with the eyes closed and noting the short swing. Alternate with the eyes open and closed.

The Universal Swing: Demonstrate that when one imagines or sees one letter on a card at a distance or at a near point that the card moves with the letter and that every other letter or object seen or imagined in turn also swings. This is the universal swing. Practice it all the time because the ability to see or to do other things is benefitted.

Practice the imagination of the swing constantly. If one imagines things are stationary, the vision is always imperfect, and effort is required and one does not feel comfortable. To stare and strain takes time. To let things move is easier. One should plan to practice the swing observed by the eye with normal vision: as short at least as the width of the letter at twenty feet or six inches, as slow as a second to each movement and all done easily, rhythmically, continuously.

IMPROVE YOUR SIGHT

ALL day long use your eyes right. You have just as much time to use your eyes right as you have to use them wrong. It is easier and more comfortable to have perfect sight than to have imperfect sight.

Practice the long swing. Notice that when your eyes move the great distance rapidly, objects in front of you move in the opposite direction so rapidly that you do not see them clearly. Do not try to see them because that stops the apparent movement.

Rest your eyes continually by blinking, which means to open and close them so rapidly that one appears to see things continuously. Whenever convenient close your eyes for a few minutes and rest them. Cover them with one or both hands to shut out the light and obtain a greater rest.

When the mind is awake it is thinking of many things. One can remember things perfectly or imagine things perfectly, which is a rest to the eyes, mind and the body generally. The memory of imperfect sight should be avoided because it is a strain and lowers the vision.

Read the Snellen Test Card at 20 feet with each eye, separately, twice daily or oftener. Imagine white spaces in letters whiter than the rest of the card. Do this alternately with the eyes closed and opened. Plan to imagine the white spaces in letters just as white, in looking at the Snellen test card, as can be accomplished with the eyes closed.

Remember one letter of the alphabet, or a part of one letter, or a period, continuously and perfectly.

RELAXATION FROM FINE PRINT

A BUSINESS card, 3″ x 2″ with fine print on one side is held in front of the eyes as near as possible, the upper part in contact with the eyebrows, the lower part resting lightly on the nose.

The patient looks directly at the fine print without trying to see. Being so close to the eyes most people realize that it is impossible to read the fine print and do not try, in this way they obtain a measure of relaxation which is sufficient to benefit the sight very much.

The patient moves the card from side to side a short distance slowly and sees the card moving provided the movement is not too short or too slow. The shorter the movement and the slower it is, the better.

Some patients, although the card is held very close, note that the white spaces between the lines become whiter and the black letters become blacker and clearer. In some cases one or more words of the fine print will be seen in flashes or even continuously as long as no effort is made to see or to read the fine print.

This movement of the card should be kept up to obtain the best results, for many hours every day. The hand which holds the card may soon become fatigued; one may then use the hands alternately. Some patients vary this by holding the card with both hands at the same time.

The amount of light is not important.

DISCARD GLASSES

EASY to say, something else to do. But it is a fact that no one can be cured without glasses and wear glasses at the same time.

This is a fact that one should keep in mind. It may help to give one backbone sufficient to do the right thing. I know how difficult it is from personal experience. I suppose I have as much originality, if not more, than the average person. It required a year before I was convinced that my eyes could not be cured unless I stopped wearing glasses. I could not wear them even for emergencies without suffering a relapse.

Patients who are really anxious to be cured can discard glasses and obtain benefit almost from the start. Wearing of glasses becomes a fixed habit. The idea of going without them is a shock. The honest determination to do all that is possible to be done for a cure, makes it easy or easier to discard glasses at once. Patients tell me that after they have discarded their glasses for a few days they do not feel as uncomfortable as they expected.

Do not use opera glasses. Do not use a magnifying glass for any purpose.

It is very natural that one should hesitate to discard glasses after he has worn them for many years and obtained what seems considerable benefit. It may help to read what I have published about glasses. Most of the discomforts of the eyes are largely functional or nervous and not due to any real or organic trouble with the eyes. All the symptoms of discomfort are accompanied by a strain which produces a wrong focus of the eyes called myopia, hypermetropia, astigmatism or presbyopia. Glasses may correct the wrong focus produced by the strain, but they do not always, because the eyes are not always strained to fit glasses accurately. While wearing glasses in order to see, one has to strain or, by an effort, squeeze the eye ball out of shape and it is impossible therefore, to obtain relaxation and see with glasses.

If one can understand what I have just stated one can realize the necessity of discarding glasses in order to obtain a cure. I feel that the facts should be emphasized and the patient made to understand the necessity of discarding glasses. This makes it easier for the patient to do without glasses.

Do not argue with yourself about the matter. When you go to a doctor you expect to take his medicine even though you may not know what it is or how it is going to act. When patients come to me for relief I say, "Discard your glasses and you can be cured."

If they are wise they do as I say without any talk.

"PAGE TWO"

ON page two of this magazine are printed each month specific directions for improving the sight in various ways. Too many subscribers read the magazine once and then mislay it. We feel that at least page two should be kept for reference.

When the eyes are neglected the vision may fail. It is so easy to forget how to palm successfully. The long swing always helps but it has to be done right. One may under adverse conditions suffer a tension so great that the ability to remember or imagine perfectly is modified or lost and relaxation is not obtained. The long swing is always available and always brings sufficient relief to practice the short swing, central fixation, the perfect memory and imagination with perfect relief.

Be sure and review page two frequently; not only for your special benefit but also for the benefit of individuals you desire to help!

Persons with imperfect sight often have difficulty in obtaining relaxation by the various methods described in the book and in this magazine. It should be emphasized that persons with good vision are better able to help others than people who have imperfect sight or wear glasses. If you are trying to cure yourself avoid people who wear glasses or do not see well. Those individuals are always under a strain and the strain is manifested in their face, in their voices, in their walk, the way they sit, in short in everything that they do.

Strain is contagious. Teachers in Public Schools who wear glasses are a menace to their pupils' sight. Parents who wear glasses or who have imperfect sight lower the vision of their children. It is always well when treating children or adults to keep them away from people with imperfect sight.

SCHOOL CHILDREN'S EYES

THE cure and prevention of imperfect sight in school children is very simple.

A Snellen Test Card should be placed in the class room where all children can see it from their seats. They should read the card at least once daily with each eye separately, covering the other eye with the palms of the hands, in such a way as to avoid pressing on the eyeball. The time required is less than a minute for both eyes. The card measures the amount of their vision. They will find from time to time that their eyesight varies. Some children are very much disturbed when they cannot see so well on account of the light being dim on a dark or rainy day and although they usually learn the letters by heart they do not always remember or see them. It is well to encourage the children to commit the letters to memory because it is a great help for them to see them. When a child can read the Snellen Test Card with each eye with perfect sight, even although they do know what the letters are, it has been found by numerous observations that their eyes are also normal and hot nearsighted, far-sighted nor do they have astigmatism. Many children find that when they have difficulty in reading the writing on the blackboard that they obtain material help after glancing at the Snellen Test Card and reading it with perfect sight.

When the eye is at rest, perfect rest, it always has perfect sight. A great many teachers and others condemn the method unwisely because they say that the children learn, and because they know what the letters are, they recite them without actually seeing them. With my instrument I have observed many thousands of school children reading the Snellen Test Card apparently with perfect sight, the test card that they had committed to memory, and in all cases never did I find anything wrong with their eyes.

About ten years ago I challenged a Doctor, a member of the Board of Education, to prove that the children deceive themselves or others by saying that they see letters when they don't. To me it is very interesting that the most wicked child in school no matter how he may lie about other things with great facility and gets by with it, was never caught lying about his eyesight. I believe that every family should have a Snellen Test Card in the home and the children encouraged to practice reading it for a few minutes or longer a number of times every day. Some children are fond of contests and quite often a child who can demonstrate that his vision was the best of any pupil in the class had a feeling of pride and satisfaction which every one in sporting events can understand.

COMPARISONS

IN practicing with the Snellen Test Card, when the vision is imperfect, the blackness of the letters is modified and the white spaces inside the letters are also modified. By comparing the blackness of the large letters with the blackness of the smaller ones it can be demonstrated that the larger letters are imperfectly seen. They really have more of a blur than do the smaller letters which cannot be distinguished.

When one notes the whiteness in the center of a large letter, seen indistinctly, it is usually possible to compare the whiteness seen with the remembered whiteness of something else. By alternately comparing the whiteness in the center of a letter with the memory of a better white, as the snow on the top of a mountain, the whiteness of the letter usually improves. In the same way, comparing the shade of black of a letter with the memory of a darker shade of black of some other object may be also a benefit to the black.

Most persons with myopia are able to read fine print at a near point quite perfectly. They see the blackness and whiteness of the letters much better than they are able to see the blackness of the larger letters on the Snellen Test Card at 15 or 20 feet. Alternately reading the fine print and regarding the Snellen Test Card, comparing the black and white of the small letters with the black and white of the large letters, is often times very beneficial. Some cases of myopia have been cured very promptly by this method.

All persons with imperfect sight for reading are benefitted by comparing the whiteness of the spaces between the lines with the memory of objects which are whiter. Many persons can remember white snow with the eyes closed whiter than the spaces between the lines. By alternately closing the eyes for a minute or longer, remembering white snow, white starch, white paint, white cloud in the sky with the sun shining on it, and flashing the white spaces without trying to read, many persons have materially improved their sight and been cured.

PRACTICING

A GREAT many people have asked, "How much time should one devote to practicing the methods of central fixation in order to be cured of imperfect sight without glasses?"

The answer is—ALL THE TIME.

One should secure relaxation or rest until one is perfectly comfortable and continue feeling comfortable as long as one is awake.

The feeling of relaxation or comfort can be obtained with the memory of perfect sight. Even if one cannot remember perfect sight one can imagine it. All black objects should be imagined perfectly black. All white objects observed should be imagined perfectly white. All letters observed should be imagined perfectly and everything that is seen should be imagined perfectly.

To imagine anything imperfectly requires a strain, an effort, which is difficult. Choose the easy way. Imagine things perfectly.

If you try to imagine an object as stationary you will strain and your sight become impaired. All day long the eyes are moving from one point to another. Imagine that objects are moving opposite to the movement of the eyes. If one does not notice this one is very apt to strain and imagine things stationary.

One can practice properly for ten minutes and be comfortable. That does not mean that all the rest of the day one can strain and tear one's eyes all to pieces without paying the penalty for breaking the law. If you are under treatment for imperfect sight be sure to keep in mind all day long from the time you wake up in the morning until you go to bed at night the feeling of comfort, of rest, of relaxation, incessantly. It is a great deal better to do that than to feel under a strain and be uncomfortable all day long.

THE VARIABLE SWING

RECENTLY I have been impressed very much by the value of the variable swing. By the variable swing is meant the ability to imagine a near object with a longer swing than one more distant. For example, a patient came to me with conical cornea, which is usually considered incurable. I placed a chair five feet away from her eyes, clearly on a line with the Snellen test card located 15 feet distant. When she looked at the Snellen test card and imagined the letters moving an inch or less she could imagine the chair that she was not looking at moving quite a distance. As is well known the shorter the swing the better the sight. Some persons with unusually good vision have a swing so short that they do not readily recognize it. This patient was able to imagine the chair moving an inch or less and the card on the wall moving a shorter distance. She became able to imagine the chair moving a quarter of an inch and the movement of the Snellen test card at 15 feet was so short that she could not notice it. In the beginning her vision with glasses was poor and without glasses was double, and even the larger letters on the Snellen test card were very much blurred. Now, when she imagined the chair moving a quarter of an inch and the Snellen test card moving so short a distance that she could not recognize it, the conical cornea disappeared from both eyes and her vision became normal. To me it was one of the most remarkable things I have seen in years. I know of no other treatment that has ever brought about so great a benefit in so bad a case.

The variable swing is something that most people can learn how to practise at their first visit. Some people can do it better than others. The improvement depends directly upon their skill in practising the variable swing.

THE EASY SHIFT

SOME time ago a man came to me for treatment of his eyes. Without glasses his vision was about one-half of the normal. This patient could not palm without suffering an agony of pain and depression. He had pain in different parts of his body as well as in his eyes and the pain was usually very severe. The long swing, the short swing tired him exceedingly and made his sight worse. I asked him to tell me what there was that he could remember which caused him no discomfort.

He said, "Everything that I see disturbs me if I make an effort." "I try very hard not to make an effort, but the harder I try the worse do I feel."

When he could not practise palming, swinging or memory successfully I suggested to him that he look from one side of the room to the other, paying no attention to what he saw, but to remember as well as he could a room in his home. For two hours he practised this and was able to move his eyes from one side of the room to the other without paying any attention to the things that were moving or to the things he saw. This was a rest to him, and when his vision was tested, much to my surprise, he read the Snellen Test Card with normal vision at twenty feet. I handed him some diamond type, which he read without difficulty and without his glasses.

Since that time I have had other patients who were unable to remember or imagine things without straining and they usually obtained marked benefit by practising the EASY SHIFT.

No one can obtain perfect sight without constantly shifting, easily, without effort. THE EASY SHIFT is easy because it is done without trying to remember, to imagine or to see. As soon as one makes an effort the shift becomes difficult and no benefit is obtained.

BREATHING

MANY patients with imperfect sight are benefited by breathing. One of the best methods is to separate the teeth while keeping the lips closed, breathe deeply as though one were yawning. When done properly one can feel the air cold as it passes through the nose and down the throat. This method of breathing secures a great amount of relaxation of the nose, throat, the body generally including the eyes and ears.

A man aged sixty-five, had imperfect sight for distance and was unable to read fine print without the aid of strong glasses. After practicing deep breathing in the manner described he became able at once to read diamond type quite perfectly, as close as six inches from the eyes. The benefit was temporary but by repetition the improvement became more permanent.

At one time I experimented with a number of patients, first having them hold their breath and test their vision, which was usually lower when they did not breathe. They became able to demonstrate that holding their breath was a strain and caused imperfect sight, double vision, dizziness and fatigue, while the deep breathing at once gave them relief.

There is a wrong way of breathing in which when the air is drawn into the lungs the nostrils contract. This is quite conspicuous among many cases of tuberculosis.

Some teachers of physical culture in their classes while encouraging deep breathing close their nostrils when drawing in a long breath. This is wrong because it produces a strain and imperfect sight. By consciously doing the wrong thing, breathing with a strain one becomes better able to practice the right way and obtain relaxation and better sight.

The habit of practicing frequently deep breathing one obtains a more permanent relaxation of the eyes with more constant good vision.

THE OPTIMUM SWING

THE optimum swing is the swing which gives the best results under different conditions.

Most readers of the magazine and the book know about the swing. The swing may be spontaneous, that is to say when one remembers a letter perfectly or sees a letter perfectly and continuously without any volition on the part of the patient he is able to imagine that it is a slow, short, easy swing. The speed is about as fast as one would count orally. The width of the swing is not more than the width of the letter, and it is remembered or imagined as easily as it is possible to imagine anything without any effort whatsoever. The normal swing of normal sight brings the greatest amount of relaxation and should be imagined when one is able to succeed when it becomes the optimum swing under favorable conditions. Nearsighted persons have this normal optimum swing usually at the near point when the vision is perfect. At the distance where the vision is imperfect the optimum swing is something else. It is not spontaneous but has to be produced by a conscious movement of the eyes and head from side to side and is usually wider than the width of the letter, faster than the normal swing and not so easily produced.

When one has a headache or a pain in the eyes or in any part of the body the optimum swing is always wider and more difficult to imagine than when one has less strain of the eyes. Under unfavorable conditions the long swing is the optimum swing, but under favorable conditions when the sight is good, the normal swing of the normal eye with normal sight is the optimum swing. The long swing brings a measure of relief when done right and makes it possible to shorten it down to the normal swing of the normal eye.

THE MEMORY SWING

THE memory swing relieves strain and tension as well as does the long or the short swing which has been described at various times. It is done with the eyes closed while one imagines looking over first the right shoulder then over the left shoulder when the eyeballs may be seen through the closed eyelids to move from side to side. When done properly it is just as efficient as the swing which is practiced with the eyes open whether short or long. The memory swing can be shortened by remembering the swing of a small letter, a quarter of an inch or less when the eyes are closed. The memory swing has given relief in many cases of imperfect sight from myopia, astigmatism and inflammations of the outside of the eyeball as well as inflammations of the inside of the eyeball. One advantage is the fact that it can be done without attracting the attention or making one more or less conspicuous to others. It is much easier than the swing practiced with the eyes open and secures a greater amount of relaxation or rest than any other swing. It may be done wrong just as any swing may be done wrong. When done right one does not imagine things are moving necessarily. All that is important is to move the eyes from side to side as far as possible or as far as one can move them when the eyes are open.

Clarification for the Memory Swing; Do not force, or hold the eyes to the left, right. Imagining looking left and right is done *gently*. The eyes move easy, relaxed left and right under the closed eyelids as you imagine looking over the left and right shoulders. Allow the head to move with the eyes. Imagining seeing the swing of opposite movement (as is taught in this book) when looking left, right is optional.

WATCH YOUR STEP

WHEN you know what is the matter with you it is possible for you to correct it and bring about a cure. If you do not know what is wrong with you the cure of your imperfect sight is delayed. Some persons have been cured quickly when they were able to demonstrate that to see imperfectly required a tremendous effort, an effort which was very difficult. Some persons are cured in one visit and they readily demonstrate that imperfect sight or failure to see is difficult. Others require weeks and months to demonstrate the facts. Perfect sight is quick, comes easy and without any effort whatever. Imperfect sight is slow, difficult. One cannot consciously make the sight worse as readily as it can be done unconsciously. There is no danger in demonstrating the facts.

Look at a small letter on the Snellen test card which can be seen clearly at ten or twenty feet, a letter O for example. When the letter is seen quite perfectly it is usually seen without any apparent effort. However, by looking intently, staring at it and making an effort to improve it the letter blurs. It can always be demonstrated that the effort to see very soon blurs the letter. Now close the eyes and rest them for a part of a minute or longer and then glance at the letter again. It will usually be as clear as it was before. Again by straining, making an effort, the letter becomes blurred. One can readily demonstrate that to make the sight worse requires an effort, a strain.

Many obstinate cases have obtained a permanent cure only after learning how to make the sight worse consciously. In my book are published Seven Truths of Normal Sight. Prove the facts by demonstrating that the sight becomes imperfect when one or all of them is made imperfect by a strain.

Teach Others

MANY teachers have told me that when they taught Arithmetic the one who learned the most was always the teacher. Some ministers have made the remark that the one who profited mostly by the sermon was the man who delivered it.

For many years my patients who have been benefited by treatment without glasses have to a greater or less extent enjoyed the pleasure of helping others. When you think that you understand how to practice the swing with benefit try to teach somebody else how to do it. If you find palming is beneficial find how many of your friends who are also benefited by palming. But when you meet someone who is not benefited by what you tell them to do, you have at this time an opportunity of helping not only your friend but your own eyes as well. It seems a simple matter for you to close your eyes, rest them for a half hour or so and find that your sight is improved by the rest. However, there are some people who are not benefited appreciably by closing their eyes and resting them. One cause of failure is the memory of imperfect sight. Many patients failed to improve because with their eyes closed they think too much of their failure to see. Patients who have improved materially usually can demonstrate that the memory of perfect sight is restful, while the memory of imperfect sight is a strain. If you have a near-sighted friend who can read ordinary print without difficulty at the near point and without glasses, you can spend an hour or two of activity in showing your friend how to demonstrate while regarding fine print that it is impossible to try to concentrate on a point without sooner or later making the sight worse, that it is impossible to remember, imagine or see stationary letters, that it is impossible to maintain normal vision with the eyes kept continuously open without blinking.

Try Dancing

THERE has been repeatedly published in this magazine and in my book that the imagination of stationary objects to be moving is a rest and relaxation and a benefit to the sight. Young children, when one or both eyes turn in or out, are benefited by having them swing from side to side with a regular rhythmical motion. This motion prevents the stare and the strain and improves the appearance of the eyes. It helps the sight of most children to play puss-in-the-corner or to play hide-and-seek. Children become very much excited and laugh and carry on and have a good time and it certainly is a benefit to their sight. It seems to me that these children would be benefited by going to dancing school. Many of my patients practice the long swing in the office and give strangers the impression that they are practicing steps of a dance. One patient with imperfect sight from detachment of the retina recently told me over the telephone that he went to a dance the night before and although he lost considerable sleep his sight was very much improved on the following morning.

Dancing is certainly a great help to keep things moving or to imagine stationary objects are moving, and is always recommended. Some people have told me that the *memory* of the music, the constant rhythmic motion and the relaxation have improved the vision.

The Short Swing

MANY people with normal sight can demonstrate the short swing readily. They can demonstrate that with normal vision each small letter regarded moves from side to side about a quarter of an inch or less. By an effort they can stop this short swing, and when they are able to demonstrate that, the vision becomes imperfect almost immediately. Practicing the long swing brings a measure of relaxation and makes it possible for those with imperfect sight to see things moving with a shorter swing. It is a good thing to have the help of someone who can practice the short swing successfully. Ask some friend who has perfect sight without glasses, in each eye to practice the variable swing as just described, which is a help to those with imperfect sight who have difficulty in demonstrating the short swing.

Nearsighted patients usually can demonstrate that when the vision is perfect, the diamond type at the reading distance, one letter regarded is seen continuously with a slow, short, easy swing not wider than the diameter of the letter. By staring the swing stops and the vision becomes imperfect. It is more difficult for a nearsighted person to stop the swing of the fine print, letter O, than it is to let it swing. When the sight is very imperfect, it is impossible to obtain the short swing. Many people have difficulty in maintaining mental pictures of any letter or any object. They cannot demonstrate the short swing with their eyes closed until they become able to imagine mental pictures.

The Snellen Test Card

THE Snellen Test Card is used for testing the eyesight. It is usually placed about 20 feet away from the patient. He covers each eye alternately, and reads the card as well as he can. Each line of letters is numbered with a figure which indicates the distance that it should be read with the normal eye. When the vision is recorded it is written in the form of a fraction. The numerator being the distance of the patient from the card, and the denominator denoting the line read. For example:—If a patient at 10 feet can only read the line marked 100 the vision is written 10/100 or 1/10. If the patient at 20 feet can read the line marked 10 the vision is recorded as 20/10 which means that the sight is double that of the average eye. Reading the Snellen Test Card daily helps the sight. Children in a public school with normal eyes under 12 years of age, who have never worn glasses were improved immediately by practicing with the Snellen Test Card. Children with imperfect sight also improved, and with the help of someone with perfect sight in time the vision becomes normal without glasses. School children oftentimes are very much interested in their eyesight and what can be accomplished with the help of the Snellen Test Card. They have contests among themselves to see who can read the card best in a bright light, or on a rainy day when the light is dim. Many of them find out for themselves that straining, makes the sight worse, while palming and swinging improve their vision. Many of them become able to use the Snellen Test Card in such a way as to relieve or prevent nervousness and headaches. Many boards of education hesitate to be responsible for any benefit that may be derived from the Snellen cards in the schools.

Aids to Swinging

IT IS possible for most people to do a very simple thing—to move the finger nail of the thumb from side to side against the finger nail of one finger. This may be done when the patient is in bed or when up and walking around, in the house, in the street or in the presence of other people, and all without attracting attention. With the aid of the movement of the thumb nail which can be felt and its speed regulated one can at the same time regulate the speed of the short swing. The length of the swing can also be regulated because it can be demonstrated that when the body moves a quarter of an inch from side to side that one can move the thumb from side to side. If the long swing is too rapid it can be slowed down with the aid of the thumb nail; when it is too long it can be shortened. At times the short swing may become irregular and then it can be controlled by the movement of the thumb nail. It is very interesting to demonstrate how the short swing is always similar to the movements of the fingernail. One great advantage connected with the short swing is that after a period of time of longer or shorter duration, the swing may stop or it may lengthen. It has been found that the movement of the thumb maintains the short swing of the body, the short swing of the letters or the short swing of any objects which may be seen, remembered or imagined. A letter O with a white center can only be remembered continuously with the eyes closed when it has a slow, short, continuous, regular swing and all without any effort or strain. The imagination may fail at times but the movement of the thumb can be maintained for an indefinite period after a little practice. One can more readily control the movement of the thumb instead of the eye.

Multiple Vision

PERSONS with imperfect sight when they regard one letter of the Snellen Test Card or one letter of fine print instead of seeing just one letter they may see two, three, six or more letters. Sometimes these letters are arranged side by side, sometimes in a vertical line one above the other and in other cases they may be arranged oblique by any angle. Multiple vision can be produced at will by an effort. It can always be corrected by relaxation. One of the best methods is to close the eyes and cover them in such a way as to exclude the light. Do this for five minutes or a half hour or long enough to obtain normal sight. The double vision is then corrected. Practice of the long swing is a great help. When the long swing is done properly the multiple images are always lessened. Do not forget that you can do the long swing in the wrong way and increase the multiple images. One great advantage of the long swing is that it helps you to obtain a slow, short, continuous swing of normal sight. When the vision is normal the letters appear to move from side to side or in some other direction a distance of about a quarter of an inch. The speed is about equal to the time of the moving feet of soldiers on the march. The most important part of the short swing is that it should be maintained easily. Any effort or strain modifies or stops the short swing. Then the eyes begin to stare and the multiple images return. It is a great benefit to learn how to produce multiple images at will because this requires much effort or strain, and is decidedly more difficult than normal single vision which can only be obtained easily without effort.

The Book
Perfect Sight Without Glasses

A GREAT many people have testified that they were cured by the help that they obtained from the book. A large number I believe have failed to be cured with its help although most people have been able to get some benefit from it.

On the first page is described the Fundamental Principle. This should interest most people because if you can follow the directions recommended you will most certainly be cured of imperfect sight from various causes. If you have a serious injury to the eye which destroys some of its essential parts you will find it impossible to carry out the directions. At the bottom of the page is printed: "If you fail ask some one with perfect sight to help you."

It is an interesting fact that only people with perfect sight without glasses can demonstrate the Fundamental Principle. You will read that with your eyes closed you should rest them, which is not possible if you remember things imperfectly. The book recommends that you remember some color that you can remember perfectly because it has been demonstrated that the normal eye is always at rest when it has normal sight. A perfect memory means perfect rest. Should you have perfect rest you have perfect sight. Most people can demonstrate that they can remember some letter or other object or some color better with their eyes closed than with their eyes open. By practice some people become able to remember, imagine and see mental pictures as well with their eyes open as they can with their eyes closed. Then they are cured.

One Thing

BY CENTRAL FIXATION is meant the ability to see one letter or one object regarded in such a way that all other letters or objects are seen worse. Some people have been cured by practicing Central Fixation only, devoting little time to other methods of cure.

SWINGING

When the normal eye has normal sight the small letters of the Snellen Test Card are imagined to be moving from side to side, slow, continuously, not more than the width of the letter. Persons with imperfect sight have become able to imagine this illusion by alternately remembering or imagining the small letter moving from side to side continuously. With their eyes open they may be able to do it for a moment or flash it, at first occasionally, and later more continuously, until they are cured.

IMAGINATION is very efficient in improving the vision. Some persons have told me that when they knew what a letter was they could imagine they saw it. By closing their eyes they usually became able to imagine a known letter better than with their eyes open. By alternately imagining a known letter with the eyes open and with the eyes closed, the imagination of the letter often improves to normal when the letter was regarded. The patient who is able to do this is also able to demonstrate that when the imagination is improved for one known letter the vision for unknown letters is also improved. By imagining the first letter of a line perfectly the patient can tell the second letter and other letters which are not known. The imagination cure is curative when other methods of treatment have failed.

Questions

ASKING questions is all too common with patients who have imperfect sight. There are important or necessary questions which the patient should know in order to bring about a cure. The cause of the imperfect sight should be emphasized. In all cases of imperfect sight a strain, an effort, a stare or concentration can be demonstrated. To see imperfectly requires a great deal of trouble. Even the imperfect memory or the memory or imagination of an imperfect letter is an effort. It is so great a strain that the memory or imagination fail if you keep it in mind for any length of time. Perfect sight can only be obtained without an effort, without a strain. It is impossible to remember or imagine things perfectly by an effort.

One may divide questions into (1)—Proper questions; (2)—Improper or useless questions.

It is a waste of time, an injury to the patient, for him to describe the infinite manifestations of imperfect sight. To know its history minutely and its variations require an effort on the part of the patient to describe these things. And this effort increases the imperfect sight. It is absolutely of no help whatever in formulating methods for its cure. Avoid asking questions about the symptoms of imperfect sight or anything connected with imperfect sight. Any question connected with perfect sight may be a good thing for the patient to know. One may ask questions as follows:

How long must one practice a perfect memory, a perfect imagination or study the latest manifestation of perfect sight?

The answer to this question is a benefit to the patient.

The Trinity

THERE are three things which the normal eye practices more or less continuously, which are necessary in order to maintain normal vision.

1—The long swing.

2—The short swing.

3—Blinking or palming.

The long swing has been described repeatedly and most people are able to practice it successfully, especially people whose sight is good. If you have very imperfect sight you may have difficulty in demonstrating the benefit of the long swing. Some patients are indeed difficult to manage. They may be able to practice the long swing when looking out of a window with its light background. By moving the whole body, head and eyes together, a long distance from side to side one becomes able to imagine a cord of the window shade moving in the opposite direction. This makes it possible to imagine the long swing when you turn your back to the window, and look at objects in the room which have a dark background. When the long swing is properly maintained the letters of the Snellen Test Card become darker as long as one does not look directly at the card. Looking above the card or below it is a help in maintaining the long swing of the card when the maximum vision is obtained by the long swing. Never look directly at the card or try to read the letters when practicing the long swing.

By gradually lessening the movement of the body from side to side, the swing of the card becomes shorter and one may soon become able to flash the large letters. The swing of the card can be reduced to an inch or less.

Mental Pictures

MANY patients with imperfect sight complain that when they close their eyes to remember a white card with black letters, they usually fail and remember instead a black card with white letters. The vision of these patients is very much improved when they become able to remember a white card white, with the black letters remembered perfectly black. Imperfect memory, imperfect imagination, imperfect sight are all caused by strain.

One patient could not remember a white pillow, but by first regarding the pillow and seeing one corner best and all the other corners worse and shifting from one corner to another he became able, when closing his eyes, to remember one corner in turn best, and obtained a good mental picture of the whole pillow. One cannot see a pillow perfectly without Central Fixation. To have Central Fixation requires relaxation or rest. One patient who could not remember a large letter C of the Snellen Test Card, with the eyes closed, was able to remember the colors of some flowers, and then he was able to remember a letter C. In order to remember a desired mental picture one should remember perfectly some other things. This is a relaxation which helps to remember the mental picture desired. It is well to keep in mind that one cannot remember one thing perfectly and something else imperfectly at the same time.

In my book is described the case of a woman with imperfect sight who could remember a yellow buttercup with the eyes closed, perfectly, but with her eyes open and regarding the Snellen Card with imperfect sight, she had no memory of the yellow buttercup.

Distance of the Snellen Test Card

THE distance of the Snellen Test Card from the patient is a matter of considerable importance. Some patients improve more rapidly when the card is placed fifteen or twenty feet away while others fail to get any benefit with the card at this distance.

In some cases the best results are obtained when the card is as close as one foot. I recall a patient with very poor sight who made no progress whatever, when the card was placed at ten feet or further, but became able to improve the vision very materially with the card at about six inches. After the vision was improved at six inches the patient became able to improve the card at a greater distance until normal sight was obtained at twenty feet. Some cases with poor vision may not improve when the card is placed at ten feet or further, or at one foot or less but do much better when the card is placed at a middle distance, at about eight or ten feet. Other individuals may not improve their vision at all at ten feet, but are able to improve their sight at twenty feet or at one foot. I recall one patient with 20 diopters of myopia whose vision at ten feet was peculiar. The letters at twenty feet and at one foot were apparently all the same normal size, but at ten feet they appeared to be one-fifth of the normal size. Practicing with the card at twenty feet or at one foot helped him greatly, more than practicing with the card at about ten feet. While some patients are benefited by practicing with the card daily always at the same distance, there are others who seem to be benefited when the distance of the card from the patient is changed daily.

Time to Practice

MANY busy people complain that they have not time to practice my methods. They say that wearing glasses is quicker and much easier. Persons with normal vision or perfect sight without glasses are practicing consciously or unconsciously all the time when they are awake. When one sees a letter or an object perfectly the eyes are at rest. Any effort to improve the sight always makes it worse. The only time the eyes are perfectly at rest is when the vision is perfect. Persons with imperfect sight have to strain in order to see imperfectly. Persons with headaches, pain and other symptoms of discomfort in the eyes or in other parts of the body are under a constant strain to see, which is usually unconscious.

When a patient says he has no time to practice he is mistaken. He has all the time there is to use his eyes in the right way or he can use them in the wrong way. He has just as much time to use his eyes properly as he has to use them improperly. He has the choice and when patients learn the facts, to complain that they have no time to practice is an error.

Some patients object to removing their glasses on the ground that their vision is not sufficiently good for them to attend to their work, and feel that they have to put off the treatment until they have a vacation. Some of my patients have very poor vision and yet find time to practice without their glasses. Some school teachers with 15 diopters of myopia with a vision of less than 10/200 have found time to practice without interfering with their work. In fact practicing without their glasses soon enabled them to do their work much better than before.

Blinking

THE normal eye when it has normal sight rests very frequently by closing the eyes for longer or shorter periods, and when practiced quickly it is called BLINKING. When the normal eye has normal sight and refrains from blinking for some seconds or part of a minute, the vision always becomes imperfect. You can demonstrate that normal vision at the near point or at the distance is impossible without frequent blinking. Most people blink so easily and for such a short period of time that things are seen continuously while the blinking is done unconsciously. In some cases one may blink five times or more in one second. The *frequency* of blinking depends on a number of factors.

The normal eye blinks more frequently or more continuously under adverse conditions as when the illumination is diminished, the distance is increased or the print read is too pale or otherwise imperfect. The distraction of conversation, noise, reflections of light, objects so arranged as to be difficult to see, all increase the frequency of blinking of the normal eye with normal sight. If the frequency of blinking is diminished under adverse conditions or from any cause the vision soon becomes imperfect.

The imperfect eye or the eye with imperfect sight blinks less frequently than the normal eye. Staring stops the blinking. The universal optical swing, the long or short swing when modified or stopped are always accompanied by less frequent blinking.

Blink in the early morning,
Blink when the sun sets at night;
Blink when the sun is dawning,
But be sure you do it right.

Curable Cases

PATIENTS wearing glasses for the relief of imperfect sight may expect better vision after they are cured than they ever had before with glasses. Adults who have good distant vision but require glasses after middle life, for reading, are also curable without glasses. Such patients, although they may read very well with glasses, complain that, as a rule, they must hold the page at one distance in order to read with the best vision. This reading distance is usually about twelve inches. Some cases require one pair of glasses for reading books or newspapers, but cannot see clearly at a greater distance without another pair of glasses. Musicians especially find that glasses that give them good vision for reading books are useless to them for reading music or for playing the piano. To see closer than twelve inches may require still another pair of glasses. To see more distant objects may require still another pair. Some of my patients have shown me numerous pairs of glasses, each one adapted for certain specific distances. It is a great relief to such cases to be cured, because then they are able, not only to see perfectly at the distance without glasses, but they can read the fine print as well at six inches as they can further off. The eye with normal sight is able to change its focus at will for all distances without any discomfort whatever.

Patients with cataract, glaucoma and other diseases of the eyes may not be able to see even with glasses. When they are cured by my methods they become able to see normally in all kinds of light, in a bright light or in a dim light. Pain, fatigue and other discomforts of the eyes are all relieved.

PERMANENT IMPROVEMENT

MANY patients find that while it is easy for them to obtain a temporary improvement in their sight by palming a sufficient length of time or by other methods, they do not seem to hold it permanently. In this connection it is well to remember that the normal eye with normal sight can only maintain normal sight permanently by consciously or unconsciously practicing the slow, short, easy swing. When the normal eye has imperfect sight it can always be demonstrated that the swing stops from an effort. When the normal eye has normal sight, the eyes are at rest and all the nerves of the body feel comfortable. When the swing stops, one always feels more or less uncomfortable. To have perfect sight can only be obtained easily, without effort. To have imperfect sight always requires a strain or an effort which stops the swing. Near-sighted patients who have normal vision for reading at the near point become able, when their attention is called to it, to demonstrate that they are more comfortable when reading the fine print than they are when they fail to see distant objects perfectly.

One of the great benefits of the drifting swing is the comfortable relaxed feeling it brings. The retinoscope always shows that the eye is not near-sighted when no effort is made. Persons with imperfect sight should imitate the eye with normal sight by practicing a perfect memory, a perfect imagination, a perfect swing, without effort, with perfect comfort all the time that they are awake. As I have said before many times, it is a good thing to know what is the matter with you because it makes it possible to correct it.

The Prevention of Myopia

THE August number of Better Eyesight is a school number devoted almost exclusively to the problem of the cure or prevention of nearsightedness in school children. The great value of the method as a preventive is emphasized by the fact that the vision of all school children has always improved, and when the vision is improved of course imperfect sight is prevented. It is well to remember that my method for the prevention of myopia in school children is the only one that is a success. It has been in continuous use for more than twenty years in the public schools of New York and other cities. Once daily or oftener the children read the card, first with one eye and then with the other, covering each eye alternately with the palm of the hand in such a way as to shut out all the light without any pressure on the eyeball. Teachers who have studied my book or have been patients find it an advantage to have the children palm five minutes three or four times a day. They claim that palming quiets the children and gives them an improved mental efficiency, which is a great help to their memory and imagination as well as their sight. I believe other children should be taught how to palm, swing, blink and improve their vision of the Snellen Test Card. The method is of great value to young children in the kindergarten, children in the high schools, and should be practiced by students and teachers in colleges and universities. In the military school and naval academy the method should be employed for the prevention of imperfect sight.

The Rabbit's Throat

DURING the past ten years a method of breathing has been practiced which has improved the vision of many patients after other methods had failed. It consists of depressing the lower jaw with the lips closed and lowering the tongue and muscles below the chin. At the same time one breathes in through the nose and throat in a manner somewhat similar to snoring and when done properly one can feel a coolness of the air while it passes down into the lungs. This method of breathing is accompanied with the eyelids being more widely open in a natural way without staring. The ear passages, nose, and throat dilate. The tube which goes from the throat to the middle ear becomes more widely open, with improved hearing in chronic deafness which does not respond to any other treatment. If one rests the chin with the thumb below it and the forefinger just below the lower lip, one can feel with the thumb the hardening of the muscles below the jaw accompanied with a decided swelling. By practice, the swelling and hardness increase. This suggested the title of the Rabbit's Throat because of a similar swelling below the rabbit's chin. The tension of the other muscles of the body becomes relaxed. There is a wonderful increase of muscular control.

Music teachers have told me that the singing voice becomes much better because of the relaxation of the muscles of the throat. The involuntary muscles of the digestive tract become relaxed in a striking manner with the relief of many symptoms of discomfort. Redness and inflammation of the mucous membranes of the eye, ear, nose and throat and the rest of the body are relieved in a few minutes with the aid of the Rabbit's Throat.

Eye-Strain During Sleep

MANY people complain that when they first wake up in the morning, they are tired, that they have headaches, and that their sight is very imperfect. Later on in the day their eyes feel better, and the vision may become normal.

I have examined with the Ophthalmoscope the eyes of many people during sleep and found much to my surprise, that most people strain much more in their sleep than they ever do when they are awake. Of course, people when unconscious of their acts during sleep, are not aware of this eye-strain.

The prevention of eye-strain during sleep is usually a very difficult matter. Some cases are benefited just before retiring by palming for one-half hour or longer, or until they go to sleep while palming. Others by practicing the long swing for fifteen minutes, have found that the eye-strain becomes less. In some serious cases with imperfect sight, when the eye-strain is not prevented by palming or the swing, they are often materially benefited by shortening their hours of sleep with the help of an alarm clock. One patient had the alarm set for 3 a.m. He would then get out of bed and practice the long swing, alternating with palming for an hour or longer with the result that he slept the rest of the night very comfortably, and awoke the next morning with little or no evidence of eye-strain during sleep.

Some people have told me that they have lessened their eye-strain during sleep materially, by moderate muscular exercises for one-half hour or longer. They find that they obtain the best results when the exercise is continued sufficiently long to produce muscular fatigue.

Suggestions

1. *Imagine things are moving all the time.*

When riding in a railroad train, when one looks out of the car window, telegraph poles and other objects, although they are stationary, appear to be moving. To stop the movement is impossible, and the effort to do so may be very uncomfortable. The greater the effort, the greater the discomfort, and is the cause of heart sickness, headaches and nausea. It can be demonstrated that any movement of the head and eyes produces an apparent movement of stationary objects.

2. *Blink often.*

By blinking is meant, closing and opening both eyes rapidly. When done properly, things are seen continuously and they always move with a quick jump in various directions. Regarding stationary objects without blinking is an effort, a strain which always lowers the vision.

3. *Read the Snellen Test Card at fifteen feet as well as you can, every night and morning.*

School children and others are often cured of imperfect sight by reading a familiar card, first with both eyes and then with each eye separately. It is the only method practiced which prevents Myopia in school children.

4. *Fine Print.*

Read fine print at six inches when possible every night and morning. If not possible, do the best you can. Just regarding the white spaces between the lines of fine print without reading the letters is a benefit.

5. *Palming.*

Palm for five minutes, ten times daily when convenient.

PERFECT SIGHT

If you learn the fundamental principles of perfect sight and will consciously keep them in mind your defective vision will disappear. The following discoveries were made by Dr. Bates and his method is based on them. With it he has cured so-called incurable cases:

1. Many blind people are curable.
2. All errors of refraction are functional, therefore curable.
3. All defective vision is due to strain in some form.
4. Strain is relieved by relaxation.

You can demonstrate to your own satisfaction that strain lowers the vision. When you stare, you strain. Look fixedly at one object for five seconds or longer. What happens? The object blurs and finally disappears. Also, your eyes are made uncomfortable by this experiment. When you rest your eyes for a few moments the vision is improved and the discomfort relieved.

Have some one with perfect sight demonstrate the fundamental principles contained in Dr. Bates' book, "Perfect Sight Without Glasses." If the suggestions and instructions are carried out, and glasses discarded, it is possible to improve the vision without personally consulting a physician.

"Perfect Sight Without Glasses" will be sent C. O. D. on five days' approval. Price, $5.00.

Central Fixation Publishing Company
383 Madison Avenue, New York City

Sun-Gazing

By W. H. BATES, M.D.

IT is a well-known fact that the constant protection of the eyes from the sunlight, or from other kinds of light, is followed by weakness or inflammation of the eyes or eyelids. Children living in dark rooms, where the sun seldom enters, acquire an intolerance for the light. Some of them keep their eyes covered with their hands, or bury their faces in a pillow and do all they possibly can to avoid exposure of their eyes to ordinary light. I have seen many hundreds of cases of young children brought to the clinic with ulceration of the cornea, which may become sufficient to cause blindness. Putting these children in a dark room is a blunder. My best results in the cure of these cases were obtained by encouraging the patients to spend a good deal of the time out of doors, with their faces exposed to the direct rays of the sun. In a short time these children became able to play and enjoy themselves a great deal more out of doors, exposed to the sunlight, than when they protected their eyes from the light. Not only is the sun beneficial to children with inflammation of the cornea, but it is also beneficial to adults.

When the patient looks down sufficiently, the white part of the eye can be exposed by gently lifting the upper lid, while the sun's rays strike directly upon this part of the eyeball. In most cases it is possible to focus the strong light of the sun on the white part of the eyeball with the aid of a strong convex glass, being careful to move the light from side to side quite rapidly to avoid the heat. After such a treatment, the patient almost immediately becomes able to open his eyes widely in the light.

The Baby Swing

YOUNG babies suffer very much from eye-strain. The tension of the eye muscles is always associated with the tension of all the other muscles of the body. Their restlessness can be explained by this tension. I was talking with an Italian mother in the clinic one day about restless children, and asked her why it was that her baby was always so quiet and comfortable when she came to the clinic, while many other babies at the same time were very restless and unhappy.

"Oh," she said, "I love my baby. I like to hold her in my arms and rock her until she smiles."

"Yes, I know," I said, "but that mother over there is rocking her baby in her arms, and the child is screaming its head off."

"Yes," exclaimed the Italian mother, "but see how she rocks it."

Then I noticed that the other mother threw the child from side to side in a horizontal direction with a rapid, jerky, irregular motion, and the more she jerked the child from side to side, the more restless did it become.

"Now, doctor," said the Italian mother, "you watch me."

I did watch her. Instead of throwing the child rapidly, irregularly, intermittently from side to side, she handled her baby as though it had much value in her eyes, and moved her not in straight lines from side to side, but continuously in slow, short, easy curves. The Italian mother picked up the other mother's child, and soon quieted it by the same swing.

I learned something that day.

The Elliptical Swing

THE normal eye when it has normal sight is always able to imagine stationary objects to be moving from side to side about one quarter of an inch, slowly and without effort. This is called the swing. In order that the swing may be continuous, the movement of the head and eyes should be in the orbit of an ellipse, or in an elongated circular direction.

A patient, aged seventy-seven, with beginning cataract in both eyes had a vision of 3/200 when she looked to one side of the card. When she looked directly at the card or the letters, she complained that she could not see them so well, or at all. She was recommended to practice swaying the body from side to side. Every time she moved to the right or to the left, she stopped at the end of the movement and stared, and that prevented relaxation. With the help of the Elliptical Swing, she obtained at once very marked benefit. Her vision was improved almost immediately when she looked directly at the letters, and her vision became worse when she looked to one side of the card.

A young man, aged sixteen, was treated for progressive myopia for a year or longer. His vision improved for a time, then improvement stopped. Some months later his vision had not become permanently improved. Palming and swinging no longer helped him. I noticed that when he would move his head from side to side, he stopped at the end of the swing and stared. When he practiced the Elliptical Swing, his head and eyes moved continuously, and the staring was prevented. At once there was a decided improvement in his vision, and this improvement continued without any relapse.

Floating Specks

WHEN a patient stares or strains to see by looking at a light-colored surface he may see, or imagine he sees, floating black specks, strings of black thread or small light-colored globules resembling tears. The floating specks may be apparently a quarter of an inch or more in size and they may be of any shape.

The ability to see or imagine floating specks may occur in children or in adults of any age. Some children have been known to lie on their backs on the ground, look up at light colored clouds and amuse themselves for hours by watching what appeared to be floating specks.

Many nervous people have been made very unhappy, consciously or unconsciously imagining that they see these floating specks.

The cause of floating specks is an imperfect memory of perfect sight. Persons with normal vision who have never been conscious of floating specks can be taught how to imagine them by straining—to imagine letters, colors or other objects imperfectly.

Conversely, patients who are conscious of floating specks are unable to imagine them and perfect sight at the same time.

In the treatment of floating specks it is important to convince the patients thoroughly that they are only imagined and not seen. It helps very much to impress on the patient's mind that to see these floating specks requires a sufficient strain to lose a perfect imagination of all objects seen, remembered or imagined at all times and in all places.

Note. — Floating specks, October, 1919, "Better Eyesight."

Muscae volitantes (floating specks), pages 176 and 236, "Perfect Sight Without Glasses."

Fundamentals

1. Glasses discarded permanently.
2. Favorable conditions: Light may be bright or dim. The distance of the print from the eyes, where seen best, also varies with people.
3. Central Fixation is seeing best where you are looking.
4. Shifting: With normal sight the eyes are moving all the time. This should be practiced continuously and consciously.
5. Swinging: When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the opposite direction.
6. Long Swing: Stand with the feet about one foot apart, turn the body to the right—at the same time lifting the heel of the left foot. Do not move the head or eyes or pay any attention to the apparent movement of stationary objects. Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate. This exercise can be practiced just before retiring at night fifty times or more. When done properly, it is a great rest and relieves pain, fatigue, and other symptoms of imperfect sight.
7. Stationary Objects Moving: By moving the head and eyes a short distance from side to side, one can imagine stationary objects to be moving. Since the normal eye is moving all the time, one should imagine all stationary objects to be moving. Never imagine that you see a stationary object stationary.
8. Palming: The closed eyes may be covered with the palm of one or both hands. The patient should rest the eyes and think of something else that is pleasant.
9. Blinking: The normal eye blinks, or closes and opens very frequently. If one does not blink, the vision always becomes worse.

Clarify for #6 - The head and eyes DO MOVE; with the body.
See beginning of the book and page 322 for complete directions.

Alternate

IT has always been demonstrated that the continuous memory, imagination, or vision of one thing for any length of time is impossible. To see one letter of the Snellen test card continuously, it is necessary to shift from one part of the letter to another. By alternately moving the eyes from one side of the letter to the other, it is possible to imagine the letter to be moving in the opposite direction to the movement of the eyes. This movement of the letter is called a swing. When it is slow, easy, short, about one-quarter of an inch or less, maximum vision is obtained which continues as long as the swing continues.

As long as we are awake, we are thinking, remembering, or imagining mental pictures, and are comfortable. To go around blind requires a distinct effort which is a strain on all the nerves and is always uncomfortable. The normal mind alternates its attention from one mental picture to another, which is a relaxation or rest. The memory, or imagination, is best when one thing is imagined better than all other things, Central Fixation, but constant shifting is necessary to maintain Central Fixation.

One of the best methods to improve the vision is to regard a letter of the Snellen test card with the eyes open, then close the eyes and remember or imagine the letter better for about ten seconds, open the eyes and regard the letter while testing the imagination of the letter for a moment. By alternately regarding the letter with the eyes open and closed, the imagination of the letter improves in flashes. By continuing to alternate the flashes improve and last longer until the vision becomes continuously improved.

Swaying

IT is a great help in the improving of vision to have the patient demonstrate that staring at one part of a letter at ten feet or further is a difficult thing to do for any length of time without lowering the vision and producing pain, discomfort, or fatigue. With the eyes closed it is impossible to concentrate on the memory or the imagination of a small part of one letter continuously without a temporary or more complete loss of the memory or the imagination.

When an effort is made to think of one part of a letter continuously with the eyes closed, the letter is imagined to be stationary. When the imagination shifts to the right of the letter a short distance and then to the left alternately, every time the attention is directed to the right, the letter is always to the left, and when the attention is directed to the left of the letter, the letter is always to the right. By alternating, the patient becomes able to imagine the letter is moving from side to side, and as long as the movement is maintained the patient is able to remember or imagine the letter. It can be demonstrated that to remember a letter or other object to be stationary always interferes with the perfect memory of the letter. One cannot remember, imagine, or see an object continuously unless it is moving. The movement must be slow, short, and easy.

When patients stare habitually, the eyes become more or less fixed, and are moved with great difficulty. When the patient stands and sways the whole body from side to side, it becomes easier to move the eyes in the same direction as the body moves. No matter how long the staring has been practiced, the sway at once lessens it.

Fear

NEAR-SIGHTED people have frequently been told that it is necessary for them to wear glasses constantly, to prevent their eyes from becoming worse. They are afraid that this statement may be true, and one cannot blame them for hesitating to leave their glasses off permanently.

One of my patients stated that she suffered very much from headaches. They were so severe that they made her ill, and confined her to her bed at least once a week. While wearing her glasses, she still was in pain, but was afraid, if she left them off, the headaches would become worse. By discarding her glasses, practicing palming, swinging, and the memory of perfect sight, her eyes and head improved immediately. When she resumed her glasses again, she at once became uncomfortable, and the pain returned. She decided to leave them off permanently, and her headaches disappeared.

Some years ago an optician consulted me about his headaches. When I examined his glasses, I found that they were plane window glass. He said that when he wore them his headaches were better, but his wife confided to me that this was not true. He was troubled more when he wore them. He was suffering from fear.

I saw him again a year later and learned that he had permanently discarded his glasses, at my suggestion, during all that time, and was free of headaches.

It has been a habit with me, when patients who suffer from fear of the consequences that might happen if they did not wear their glasses, to have them demonstrate the facts. When the truth is known, fear is abolished. It is very easy in most cases to teach patients some of the causes of headaches.

Bates Method Popular with Teachers

THROUGHOUT the past year a group of teachers in one of the city high schools has been much interested in studying the Bates method. One afternoon each week, from three to four, we have a "Bates Class." The number attending has varied, sometimes being as many as fourteen. I feel that the total result has been eminently satisfactory. A great deal of enthusiasm has been aroused and many people helped.

Different individuals have, of course, presented different problems. One woman was beginning to feel that her near vision was blurring. She had never worn glasses. It seemed a very short time—perhaps not more than a month—before her eyes improved so that she could read diamond type. At present she is able to see the microscopic print in the little Bible. A man who had worn glasses many years discarded them last December, and says now he has "forgotten how they feel." Another teacher who took off her glasses two years ago, comes to the class once in a while for a little practice with us when her eyes feel tired.

A certain teacher with three diopters of hyperopia and presbyopia has made great strides. She has a vivid imagination and never-flagging enthusiasm. We both feel that her eyes will be normal some day in the near future.

The teachers who come to the class often look very weary. They always say they feel more rested at the end of the lesson.

Our procedure is the usual one of palming, swinging, sunning and working with the Snellen test card and fine print.

Some of the teachers who understand the method come to help teach the others. A student in the school whom I have trained always assists at the classes, and that makes the handling of the large group much easier.

I am intending to have a similar class next year, and I am sure we are going to accomplish even more.

Optimism

OPTIMISM is a great help in obtaining a cure of imperfect sight. About ten years ago a patient was treated for cataract, complicated with glaucoma. After two weeks of daily treatment the vision improved very much and the patient became able to travel about the streets without a companion to guide her. Her vision at this time had improved from perception of light to 10/200. After palming, swinging, and the memory of perfect sight, her vision was still further improved. She was very much encouraged and returned home full of enthusiasm to carry out the treatment to the very best of her ability.

Soon afterwards things did not go well at home. The patient became very much depressed and stopped her daily practice. Her daughter was very enthusiastic, and realized that her mother had been very materially improved and that further treatment would bring about a complete cure. She talked to her mother for half an hour or more and encouraged her to continue with her practice. The patient responded favorably, got busy, and was able to bring back much of the sight which had been lost. She made further improvement every day.

At times the mother was very pessimistic. She was continually complaining that she knew very well that she would never get her sight back. Then the daughter would start in with her optimism.

One bright, sunshiny morning the mother got up, took a card with diamond type printed on one side, and was greatly surprised to read it without any trouble. In three months her distant vision was normal.

Read Fine Print

MANY near-sighted patients can read fine print or diamond type at less than ten inches from their eyes easily, perfectly and quickly, by alternately regarding the Snellen test card at different distances, from three feet up to fifteen feet or further. The vision may be improved, at first temporarily, and later, by repetition, a permanent gain usually follows.

It is a valuable fact to know, that when fine print is read perfectly, the near-sightedness or myopia disappears during this period. It can only be maintained at first for a fraction of a second, and later more continuously.

Near-sighted patients and others, with the help of the fine print can usually demonstrate that staring at a small letter always lowers the vision, and that the same fact is true when regarding distant letters or objects.

With the help of the fine print, the near-sighted patient can also demonstrate that one can remember perfectly only what has been seen perfectly; that one imagines perfectly only what is remembered perfectly, and that perfect sight is only a perfect imagination.

A great many people are very suspicious of the imagination, and feel or believe that things imagined are never true. The more ignorant the patient, the less respect do they have for their imagination, or the imagination of other people. It comes to them as a great shock, with a feeling of discomfort, to discover that the perfect imagination of a known letter improves the sight for unknown letters of the Snellen test card, or for other objects.

It is a fact, that one can read fine print perfectly, with perfect relaxation, with great relief to eyestrain, pain fatigue and discomfort, not only of the eyes, but of all other nerves of the body.

Moving

THE world moves. Let it move. People are moving all day long. It is normal, right, proper that they should move. Just try to keep your head, or one finger, one toe, stationary, or keep your eyes open continuously. If you try to stare at a small letter or a part of it without blinking, note what happens. Most people who have tried it discover that the mind wanders, the vision becomes less, pain and fatigue are produced.

Stand facing a window and note the relative position of a curtain cord to the background. Take a long step to the right. Observe that the background has become different. Now take a long step to the left. The background has changed again. Avoid regarding the curtain cord. While moving from side to side it is possible to imagine the cord moving in the opposite direction. By practice one becomes able to imagine stationary objects not seen to be moving as continuously, as easily, as objects in the field of vision.

Universal Swing: When one becomes able to imagine all objects seen, remembered, or imagined, to be moving with a slow, short, easy swing, this is called the Universal Swing. It is a very desirable thing to have, because when it is imagined with the eyes closed or open, one cannot simultaneously imagine pain, fatigue, or imperfect sight.

The Universal Swing can be obtained without one being conspicuous. With the hand covered, move the thumb from side to side about one-quarter of an inch, and move the eyes with the thumb. Stationary objects can be imagined to be moving.

When walking rapidly forward, the floor or the sidewalk appears to move backward. It is well to be conscious of this imagined movement.

Never imagine stationary objects to be stationary. To do this, is a strain, a strain which lowers the vision.

Dizziness

DIZZINESS is caused by eyestrain. Some people when standing on the roof of a house looking down, strain their eyes and become dizzy. Usually the dizziness is produced unconsciously. It can be produced consciously, however, by staring or straining to see some distant or near object.

Some persons when riding in an elevator are always dizzy and may suffer from attacks of imperfect sight with headache, nausea, and other nervous discomforts. An old lady, aged sixty, told me that riding in an elevator always made her dizzy, and produced headaches with pain in her eyes and head. I tested her vision and found it to be normal both for distance and for reading without glasses. To obtain some facts, I rode in an elevator with her from the top to the bottom of the building and back again. I watched her eyes closely and found that she was staring at the floors which appeared to be moving opposite to the movement of the elevator. I asked her the question: "Why do you stare at the floors which appear to be moving by?"

She answered: "I do not like to see them move, and I am trying to correct the illusion by making an effort to keep them stationary. The harder I try, the worse I feel."

I suggested to her that she look at one part of the elevator and avoid looking at the floors. Her discomfort was at once relieved, and she was soon cured.

In all cases of dizziness, the stare or strain is always evident. When the stare or strain is relieved or prevented, dizziness does not occur.

With advancing years attacks of dizziness and blindness occur more frequently than in younger individuals. All attacks of dizziness with blindness are quite readily cured by practicing the imagination of the swing, the memory of perfect sight, or by palming.

The Period

THE perfect memory or imagination of a period is a cure for imperfect sight. Only the color needs to be remembered. The size is immaterial, but a small period is remembered with more relaxation than a large one. It it true, however, that with perfect sight, one has the ability to remember all things perfectly.

One cannot remember a period perfectly by any kind of an effort. It usually happens that one may remember a period for a time, and then lose it by an effort. To remember a period stationary, is impossible. One has to shift more or less frequently in order to remember one period perfectly all the time, or one has to imagine the period to be moving, or one has to remember the period by central fixation,—one part best. By shifting, is meant to look away from the period and then back, but to do it so quickly that it is possible to remember the period continuously, although you are not looking at it all the time,—this with the eyes closed. Every time you blink, you shift your eyes. You can blink so rapidly that it is not noticeable. When you close your eyes and remember a period, you cannot remember it unless you are, with your eyes closed, going through the process as though you were blinking, looking away from it and back again, but so quickly that it seems as though you were looking at the period continuously. You cannot remember the whole of the period at once. No matter how small the period is, you cannot see or remember it perfectly, all parts equally well at the same time. You cannot remember the period perfectly by any kind of an effort. When the memory of the period is perfect, the mental and physical efficiency is increased. A perfect memory of the period does not necessarily mean that one should think only of the period.

Demonstrate

1. That an effort to see always lowers the vision. Look at the Snellen test card at a distance of twenty feet. It may be possible for you to see the large letters and read them without any apparent effort, while the smaller letters produce a strain which you can feel. If you consciously increase the effort to see the smaller letters, your vision becomes more imperfect. It is not easy for you to realize that effort is always present when the vision is lowered. Knowing the cause of your imperfect sight is a great help in selecting the remedy.

2. That a stare always lowers the vision. It is a truth that the normal eye blinks very frequently. In order to have normal sight, the eyes must blink. One can demonstrate that, when the patient looks at one letter at the distance with normal sight, or looks at one letter at a near point where it is seen clearly, keeping the eyes continuously open without blinking for a minute or longer, always lowers the vision for the distance or for the near point. This should convince the patient that blinking is absolutely necessary in order to obtain good vision.

3. That palming, when done correctly, improves the vision. When the closed eyes are covered with one or both hands, and all light is excluded, the patient should see nothing at all, or a perfect black. This is a rest to the eyes and always improves the sight at least temporarily. Palming can be done wrong. When it is practiced incorrectly, the field imagined by the patient contains streaks of red, white, blue, or other colors. The eyes are under a strain, and the vision is not materially improved by the wrong method of palming. It can be demonstrated that palming for half an hour or longer is a greater benefit than palming for only a few minutes.

Demonstrate

THAT central fixation improves the vision. The normal eye is always at rest and always has central fixation. Central fixation cannot be obtained through any effort. When an effort is made by the normal eye, central fixation is always lost. In central fixation, one sees best the point regarded while all other points are seen less clearly.

Look at the upper left hand corner of the back of a chair. Note that all other parts of the chair are not seen so well. Look at the top of a letter at a distance at which it can be seen clearly. Then quickly look at the bottom of the letter. Alternate. When the eyes go up, the letter appears to move down. Then the eyes move down, the letter appears to move up. Coincident with this movement, you can observe that you see best the point regarded and all other points less clearly or less distinctly. When you can imagine the letter to be moving, it is possible for you to see best where you are looking.

The size of the letter or object seen, does not matter. Central fixation can be demonstrated with the smallest letters which are printed, or the smallest objects. Close the eyes and remember or imagine how the small letter would look if you imagined one part best. By shifting from one part of the letter to another, central fixation with the eyes closed may be made continuous for one-half minute or longer. Then with the eyes open, it is possible for one second or less to see, remember, or imagine the same small letter or other objects in the same way,—one part best.

Note that when the letters are read easily and clearly, they are always seen by central fixation, and relaxation is felt. Central fixation is a rest to the nerves and when practiced continuously, it relieves strain and improves the vision to normal.

Demonstrate

THAT the optical swing always improves the vision.

Stand before an open window with the feet about one foot apart. Sway the whole body, including the head and eyes, from side to side. When the body moves to the right, the head and eyes also move to the right, while, at the same time, the window and other stationary objects are to the left of where you are looking. When the body sways to the left, the window and other stationary objects are to the right. Be sure that the head and eyes are moving from side to side with the whole body, slowly, without an effort to see. When the swaying is done rapidly, it is possible to imagine stationary objects are moving rapidly in the opposite direction. While the swinging is being practiced, notice that the window and other stationary objects which are nearer, appear to move in the opposite direction to the movement of the body, head and eyes. Objects beyond the window may appear to move in the same direction as the body, head, and eyes move.

Note that when the body is swaying rapidly, the window and other objects are not seen very clearly; but when the swaying is slowed down and shortened, so that parts of the window move one-quarter of an inch or less, the vision is improved for those parts of the window regarded. More distant objects, which move in the same direction as the movement of the body, head, and eyes, are also improved with the slow, short, easy swing.

After you have become able to imagine the window to be moving, practice on other objects. All day long, the head and eyes are moving. Notice that stationary objects are moving in the opposite direction to the movement of the head and eyes. To see stationary objects apparently stationary, is a strain which lowers the vision and may cause pain, fatigue, and other discomforts.

Demonstrate

THAT the long swing not only improves the vision, but also relieves or cures pain, discomfort and fatigue.

Stand with the feet about one foot apart, facing squarely one side of the room. Lift the left heel a short distance from the floor while turning the shoulders, head, and eyes to the right, until the line of the shoulders is parallel with the wall. Now turn the body to the left after placing the left heel upon the floor and raising the right heel. Alternate looking from the right wall to the left wall, being careful to move the head and eyes with the movement of the shouders. When practiced easily, continuously, without effort and without paying any attention to moving objects, one soon becomes conscious that the long swing relaxes the tension of the muscles and nerves.

Stationary objects move with varying degrees of rapidity. Objects located almost directly in front of you appear to move with express train speed and should be very much blurred. It is very important to make no attempt to see clearly objects which seem to be moving very rapidly.

The long swing seems to help patients who suffer from eyestrain during sleep. By practicing the long swing fifty times or more just before retiring and just after rising in the morning, eyestrain during sleep has been prevented or relieved. It is remarkable how quickly the long swing relieves or prevents pain. I know of no other procedure which can compare with it. The long swing has relieved the pain of facial neuralgia after operative measures had failed. Some patients who have suffered from continuous pain in various parts of the body have been relieved by the long swing, at first temporarily, but by repetition the relief has become more permanent. Hay fever, asthma, sea-sickness, palpitation of the heart, coughs, acute and chronic colds are all promptly cured by the long swing.

Demonstrate

1. Demonstrate that when the eyes are stationary, they are under a tremendous strain. Stand before the Snellen test card at a distance of fifteen or twenty feet. Look directly at one small area of a large letter, which can be seen clearly. Stare at that part of the letter without closing the eyes and without shifting the eyes to some other point. The vision becomes worse and the letter blurs. Stare continuously, and note that the longer you stare, the more difficult it is to keep the eyes focused on that one point or part of the letter. Not only does the stare become more difficult, but the eyes become tired; and by making a greater effort, the eyes pain, or a headache is produced. The stare can cause fatigue of the whole body when the effort is sufficiently strong and prolonged.

2. Demonstrate that when the eyes are moving from one point to another, frequently, easily and continuously, the stare, the strain, or the effort to see is prevented and the eyes feel rested. In fact, the eyes are not at rest except when they are moving. Note that when you look at a letter on the Snellen test card and alternately shift from the top to the bottom of it, the vision remains good or is improved. When the letter is seen perfectly, the eyes are shifting; and when seen imperfectly, the shifting stops.

3. Close your eyes and remember your signature. This can usually be done quite perfectly. Try to remember the first and the last letter of your name simultaneously. This is an impossible thing to do and requires a strain. If you shift from one letter to another, you can remember your signature, one letter at a time; but if you make an effort to remember it, the memory and the imagination of your signature disappears.

Demonstrate

I. That the smaller the object regarded, the easier it is to remember. One can, with time and trouble, become able to remember all the words of one page of a book. It is easier to remember one word than all the words of a page. It is still easier to remember one letter of a word better than all the letters. Regard a capital letter. Demonstrate that it is easier to see or remember the top of the letter best, and the bottom of it less clearly than to remember the top and bottom perfectly and simultaneously. Now look directly at the upper right hand corner and imagine one-fourth of the letter best. Then cover the remaining three-quarters of the letter with a piece of paper. It is possible to look directly at the exposed part of the letter and imagine half of it best. Cover the part that is not seen distinctly, and demonstrate that half of the exposed part of the letter can be seen or imagined best, while the rest of it is not seen so clearly. With the aid of the screen, an area as small as an ordinary period, may finally be imagined. Demonstrate that the imagination of a perfectly black small period, forming part of a small letter at fifteen feet, enables one to distinguish that letter.

II. That, with the eyes closed, a small black period can be imagined blacker than one three inches in diameter. If this fact cannot be readily demonstrated with the eyes closed:

1. Stand close to a wall of a room, three feet or less, and regard a small black spot on the wall six feet from the floor. Note that you cannot see a small black spot near the bottom of the wall at the same time.

2. Place your hand on the wall six feet from the floor, and note that you cannot see your hand clearly when you look at the bottom of the wall.

Demonstrate

That vision is always imagination, either perfect or imperfect. What we see is only what we think or imagine we see. The white center of the letter "O", when seen perfectly, appears to be whiter than it really is, or whiter than the rest of the card. That part of the center of the "O" which is in contact with the black appears to be the whitest part of the white center. By covering the black part of the "O" with a screen, which has an opening in the center, the whiteness of the center of the "O" appears to be the same shade of white as the rest of the card. Now, remove the screen, and at the first glance, the center of the "O" appears for a short time to be much whiter than it really is. In other words, one sees something which is not really seen, but only imagined. When some people enter a room which is totally dark, they often imagine that they see a white ghost. They don't really see it; they only imagine it, but their imagination may be so vivid that no amount of argument will convince them that they did not see the ghost.

When one looks at the upper right hand corner of a large letter of the Snellen test card, it is possible to see that point best, and all the rest of the letter not so black. The part seen best appears blacker than it really is. The part seen worse appears less black than it really is. Things seen more perfectly than they really are, are not seen, but imagined. Things seen less perfectly than they really are, are not seen imperfectly, but are imagined imperfectly.

HE WON'T STAY DOWN

This old world is sometimes jealous of the chap who
means to rise;
It sneers at what he's doing or it bats him 'twixt
the eyes;
It trips him when he's careless, and it makes his way
so hard
What's left of him is sinew, not a walking tub of
lard;
But it's only wasting effort, for by George, the guy
keeps on
When his hopes have crumbled round him and
you'd think his faith was gone,
Till the world at last knocks under and it passes him
a crown:
Once, twice, thrice it has upset him,
but
he
won't
stay
down.
What cares he when out he's flattened by the cruel
blow it deals?
He has rubber in his shoulders and a mainspring
in his heels.
Let the world uncork its buffets till he's bruised from
toe to crown;
Let it thump him, bump him, dump him, but he
won't stay down.

—ST. CLAIR ADAMS.

Demonstrate

1. That the sway improves the vision because it prevents the stare.

Stand with the feet about one foot apart, facing a Snellen test card about fifteen feet away. Sway the body from side to side, at first with a rapid, wide swing. When the body, head and eyes sway to the right, observe that the Snellen test card is to the left of where you are looking. Then sway the body, head and eyes to the left. The test card is now to the right of where you are looking. Practice this sway for a few minutes and, without looking at the Snellen test card directly, observe that the whiteness of the card becomes whiter and the black spots on the card become a darker shade of black. The test card appears to move in the direction opposite to the movement of the eyes, while objects beyond the card may move in the same direction as the eyes move.

2. That when the forefinger of one hand is held about six inches in front and to one side of the face, the finger appears to move from side to side in the direction opposite to the movement of the head and eyes. Close the eyes and let the hand rest in the lap and remember the swing of the finger. Imagine that the hand, which is fastened to the finger, moves with it. Realize that when the hand moves, the wrist, the arm, the elbow and other parts of the body, being joined together, all move with the finger. Now try to imagine the elbow is stationary, while the finger is moving. It is impossible to do this. When the finger moves, you can imagine not only your body, but also the chair on which you are sitting, the floor on which the chair rests, the walls of the room, the whole building with its foundation, in fact, the universe to be moving with the finger. This is called the universal swing and is possible only when the memory, imagination, or the sight is good.

Demonstrate

1. That a strain to see at the distance produces near-sightedness. Look at a Snellen test card at twenty feet and read it as well as you can. Now strain or make an effort to see it better, and note that instead of becoming better, it becomes worse.

2. That a strain to see at the near point does not increase near-sightedness, but always lessens it.

Look at a card of fine print at six inches from your eyes and read it as well as you can. Now make an effort to see it better, and note that your vision for the near point is lowered, while the ability to read the fine print at a greater distance is improved.

3. That when a mental picture is perfect with the eyes closed for part of a minute or longer, a perfect mental picture can be remembered, imagined, or seen for a second or less with the eyes open.

Remember a black kitten. If your mental picture is gray or an imperfect black with the eyes closed, imagine that you are pouring black ink or black dye over it. Note that the clearness of the mental picture improves.

Look at a page of fine print. Then close your eyes and imagine the white spaces between the lines to be perfectly white. If they appear to be a grayish white, imagine that you are painting the white spaces between the letters, inside the letters, and between the lines, with white paint or whitewash. Then open your eyes for a fraction of a second and note that the white spaces between the lines will appear whiter, if you do not make an effort to see either the black letters or the white spaces.

Demonstrate

That by practicing you can imagine a letter at ten feet as well as you can see it at one foot.

Regard a letter of the Snellen test card at a distance where it cannot be readily distinguished, and appears blurred. Now look at the same letter on a card at the near point, one foot or less, where it can be seen perfectly. Then close your eyes and with your finger draw the same letter in the air as well as you can remember it. Open your eyes and continue to draw the imaginary letter with your finger while looking for only a few seconds at the blurred letter on the card at ten feet. Then close your eyes again and remember the letter well enough to draw the letter perfectly in your imagination with your finger. Alternate drawing the letter at ten feet in your imagination with your eyes open and drawing it with your eyes closed as well as you see it at one foot or nearer. When you can draw the letter as perfectly as you remember it, you see the letter on the distant card in flashes.

By repetition you will become able not only to always imagine the known letter correctly, but to actually see it for a few seconds at a time. You cannot see a letter perfectly unless you see one part best, central fixation. Note that you obtain central fixation while practicing this method, i.e., you see one part best. Drawing the letter with your finger in your imagination enables you to follow the finger in forming the letter, and with the help of your memory, you can imagine each side of the letter best, in turn, as it is formed. By this method the memory and the imagination are improved, and when the imagination becomes perfect, the sight is perfect. You can cure the highest degrees of myopia, hypermetropia, astigmatism, atrophy of the optic nerve, cataract, glaucoma, detachment of the retina and other diseases by this method.

THE USE OF THE SUN GLASS

In using the sun glass, it is well to accustom the eyes of the patient to the strong light by having him sit in the sun with his eyes closed, and at the same time he should slowly move his head from side to side, in order to avoid discomfort from the heat. Enough light shines through the eyelid to cause some people a great deal of discomfort at first, but after a few hours' exposure in this way, they become able to gradually open their eyes to some extent without squeezing the lids. When this stage is reached, one can focus, with the aid of the sun glass, the light on the closed eyelids, which at first is very disagreeable. When the patient becomes able to open the eyes, he is directed to look as far down as possible, and in this way the pupil is protected by the lower lid. Then by gently lifting the upper lid, only the white part of the eye is exposed, while the sun's rays strike directly upon this part of the eyeball. The sun glass may then be used on the white part of the eye. Care should be taken to move the glass from side to side quickly. The length of time devoted to focusing the light on the white part of the eye is never longer than a few seconds. After such a treatment the patient almost immediately becomes able to open his eyes widely in the light.

Demonstrate

THAT it requires an effort or a strain to produce imperfect sight.

Look at the notch at the top of the big "C" of the Snellen test card at fifteen feet. Keep your eyes fixed on the notch. Make an effort to see it and increase that effort as much as you possibly can. Notice that it is difficult to keep your eyes and mind fixed on that one point. Notice also that it is tiresome and makes your eyes pain. If you keep it up long enough, your head begins to ache and all the nerves of your body are strained.

If you look at some of the letters on the lower lines which are much smaller than the big "C", they may appear so blurred that you are not able to distinguish them. Trying to see these small letters blurs them still more.

Now hold the test card in your hand about one foot from your eyes. The big "C" is seen plainly and without any effort. Try to see the top and the bottom of the big "C" perfectly black at the same time. Notice that the "C" becomes blurred and the strain which blurs it also gives much discomfort.

From this evidence, we can conclude that perfect sight comes easily, without any effort or strain, while imperfect sight is always produced by a strain or an effort to see.

Demonstrate

1. That perfect sight is not possible unless one imagines a letter to be moving, and that an effort to imagine a letter stationary always fails. Close your eyes and remember a small letter of the Snellen test card. Imagine that some one is moving the test card a short distance from side to side so that all the letters on the card appear to be moving with the movement of the card. Remember the small letter moving. You can remember it provided you imagine it is moving. Now try to stop this movement by staring at one part of the small letter and imagining that it is stationary. The letter soon becomes blurred.

2. That the circular swing prevents the stare and relieves pain and fatigue.

Hold the forefinger of one hand about six inches in front of one eye and a few inches to the outer side of the face. By moving the head and eyes in a circular or an elliptical orbit, notice that the finger appears to move in the direction opposite to the movement of the head and eyes. Now realize that the hand must move with the finger because the hand and finger are fastened together. When one moves, the other moves in the same direction, up, down, to the right or left. The same fact is true of the arm fastened to the wrist. When the finger moves, the hand, wrist and arm in turn, all move and in the same direction. Likewise when the finger moves, the shoulder moves with it and other parts of the body fastened directly or indirectly to the finger. You may soon become able to imagine the chair on which you are sitting to be fastened indirectly to the finger. When one moves, the other always moves in the same direction. When you become able to imagine all things, one at a time to be moving with the finger, i.e., the universal swing, the stare is prevented and pain and fatigue disappear. The memory, imagination and vision are also improved.

Dizziness

DIZZINESS is caused by eyestrain. Some people when standing on the roof of a house looking down, strain their eyes and become dizzy. Usually the dizziness is produced unconsciously. It can be produced consciously, however, by staring or straining to see some distant or near object.

Other people, when riding in an elevator, become dizzy and may suffer from attacks of imperfect sight with headache, nausea, and other nervous discomforts.

An old lady, aged sixty, told me that riding in an elevator always made her dizzy, and produced headaches with pain in her eyes and head. I tested her vision and found it to be normal both for distance and for reading without glasses. To obtain some facts, I rode in an elevator with her from the top to the bottom of the building and back again. I watched her eyes closely and found that she was staring at the floors which appeared to be moving opposite to the movement of the elevator.

I asked her why she stared at the floors which appeared to be moving by. She answered that she did not like to see them move, and was trying to correct the illusion by making an effort to keep them stationary. She said the harder she tried, the worse she felt. I suggested that she look at one part of the elevator and avoid looking at the floors. Her discomfort was at once relieved, and she was soon cured.

In all cases of dizziness, the stare or strain is always evident. When the stare or strain is relieved or prevented, dizziness does not occur. With advancing years attacks of dizziness and blindness occur more frequently than in younger individuals All attacks of dizziness with blindness are quite readily cured by practicing the imagination of the swing, the memory of perfect sight, or by palming.

Demonstrate

That memory and imagination improve the vision.

Look at the large letter at the top of the card and note that it may be more or less blurred. Close the eyes and remember or imagine the same letter perfectly. Then open both eyes and imagine it as well as you can. In a second or less, close your eyes and remember the letter perfectly. When this is accomplished open the eyes and imagine it as well as you can. Close them quickly after a second or less. Practice the slow, short, easy swing and alternately remember the large letter with the eyes closed for part of a minute or longer, and then open the eyes and imagine it as well as you can.

When done properly, you will be able to improve your vision of the large letter until it becomes quite perfect. Then practice in the same way with the first letter of the second line. Improve your imagination of the first letter of the second line in flashes, until it improves sufficiently for you to recognize the next letter without looking at it.

Improve the sight of the first letter of each line by alternately remembering it with the eyes closed for part of a minute and then flashing it for just a moment, a second or less. You should be told what the first letter of each line is. With your eyes closed remember it as perfectly as you can. Then open your eyes and test your imagination for the letter for a very short time, one second or even less. Keep your eyes closed for at least a part of a minute, while remembering the known letter. The flashes of the known letter with the eyes open become more frequent and last longer, until you become able to see, not only the known letter, but other unknown letters on the same line.

Demonstrate

1. That palming improves the sight.

When both eyes are closed and covered with one or both hands in such a way as to exclude all light, one does not see red, blue, green or any other color. In short, when the palming is successful one does not see anything but black, and when the eyes are opened, the vision is always improved.

2. That an imperfect memory prevents perfect palming and the vision is lowered.

Remember a letter "O" imperfectly, a letter "O" which has no white center and is covered by a gray cloud. It takes time; the effort is considerable and in spite of all that is done, the memory of the imperfect "O" is lost or forgotten for a time. The whole field is a shade of gray or of some other color, and when the hands are removed from the eyes, the vision is lowered.

3. That when a perfect letter "O" is remembered, palming is practiced properly, continuously and easily and the sight is always benefited.

4. That to fail to improve the sight by palming, or to palm imperfectly is difficult. To fail, requires a stare or a strain and is not easy. When an effort is made the eyes and mind are staring, straining, trying to see. When no effort is made, the palming becomes successful and the vision is benefited. Successful palming is not accomplished by doing things. Palming becomes successful by the things that are not done.

5. That the longer you palm, the greater the benefit to your vision. Palm first for two minutes, then four minutes, six, etc., until you have palmed for fifteen. Notice the improvement gained in 15 minutes has been greater than that in four minutes.

Demonstrate

1. That a short, swaying movement improves the vision more than a long sway.

Place the test card at a distance where only the large letter at the top of the card can be distinguished. This may be ten feet, further or nearer. Stand with the feet about one foot apart and sway the body from side to side. When the body sways to the right, look to the right of the card. When the body sways to the left, look to the left of the card. Do not look at the Snellen test card. Sway the body from side to side and look to the right of the Snellen test card, and alternately to the left of it. Note that the test card appears to be moving. Increase the length of the sway and notice that the test card seems to move a longer distance from side to side. Observe the whiteness of the card and the blackness of the letters. Now shorten the sway, which, of course, shortens the movement of the card. The card appears whiter and the letters blacker when the movement of the card is short, than when the movement of the card is long.

2. Demonstrate that when the eyes are stationary, they are under a tremendous strain. Stand before the Snellen test card at a distance of fifteen or twenty feet. Look directly at one small area of a large letter, which can be seen clearly. Stare at that part of the letter without closing the eyes and without shifting the eyes to some other point. The vision becomes worse and the letter blurs. Stare continuously, and note that the longer you stare, the more difficult it is to keep the eyes focused on that one point or part of the letter. Not only does the stare become more difficult, but the eyes become tired; and by making a greater effort, the eyes pain, or a headache is produced. The stare can cause fatigue of the whole body when the effort is sufficiently strong and prolonged.

Demonstrate

That the eyes can be used correctly or incorrectly when walking.

Many people have complained that after walking a short distance slowly, easily and without any special effort, they become nervous, tired and their eyes feel the symptoms and consequences of strain. When they were taught the correct way to use their eyes while walking, the symptoms of fatigue or strain disappeared.

The facts can be demonstrated with the aid of a straight line on the floor or the seam in the carpet.

Stand with the right foot to the right of the line and the left foot to the left of the line. Now put your right foot forward and look to the left of the line. Then put your left foot forward and look to the right of the line. When you walk forward, look to the left of the line, when your right foot moves forward. Look to the right of the line when your left foot moves forward. Note that it is difficult to do this longer than a few seconds without uncertainty, discomfort, pain, headache, dizziness or nausea.

Now practice the right method of walking and using the eyes. When the right foot moves forward, look to the right; and when the left foot moves forward, look to the left. Note that the straight line seems to sway in the direction opposite to the movement of the eyes and foot, i.e., when the eyes and foot move to the right, the line seems to move to the left. When the eyes and foot move to the left, the line seems to move to the right. Note that this is done easily, without any hesitation or discomfort.

When you walk, you can imagine that you are looking at the right foot as you step forward with that foot. When you step forward with the left foot, you can imagine that you are looking at your left foot. This can be done in a slow walk or quite rapidly while running straight ahead or in a circle.

Demonstrate

Demonstrate that perfect sight is accomplished when the imagination is good, and that you see only what you imagine you see.

Take a Snellen test card and hold it at a distance from your eyes at which your sight is fairly good. Look at the white center of the large "O" and compare the whiteness of the center of the "O" with the whiteness of the rest of the card. You may do it readily; but if not, use a screen, that is, a card with a small hole in it. With that card, cover over the black part of the letter "O" and note the white center of the letter which is exposed by the opening in the screen. Remove the screen and observe that there is a change in the appearance of the white, which appears to be a whiter white, when the black part of the letter is exposed. When the black part of the letter is covered with a screen, the center of the "O" is of the same whiteness as the rest of the card. It is, therefore, possible to demonstrate that you do not see the white center of the "O" whiter than the rest of the card, because you are seeing something that is not there. When you see something that is not there, you do not really see it, you only imagine it. The whiter you can imagine the center of the "O," the better becomes the vision for the letter "O," and when the vision of the letter "O" improves, the vision of all the letters on the card improves. The perfect imagination of the white center of the "O" means perfect imagination of the black, because you cannot imagine the white perfectly, without imagining the black perfectly. By practice you may become able to imagine the letter "O" much better than it really is, and when this is accomplished, you become able to actually see unknown letters.

Demonstrate

That glasses lower the vision.

Stand fifteen feet from the Snellen test card and test the vision of each eye without glasses. Then test the vision of each eye with glasses on, after having worn them for half an hour or longer. Remove the glasses; test the vision again and compare the results. Note that the vision without glasses becomes better, the longer the glasses are left off.

Test the eyes of a person who is very near-sighted. Remove the glasses and test the sight of each eye at five feet, nearer or farther, until the distance is found at which the vision is best without glasses. Now test the vision for five minutes at this distance, which is the optimum distance, or the distance at which the vision is best. For example, near-sighted people see best when the print is held a foot or nearer to the eyes. If the eyes see best at six inches, the optimum distance is six inches; but if the distance at which the eyes see best is thirty to forty inches, the optimum distance is then thirty or forty inches.

In near-sightedness, glasses always lower the vision at the optimum distance. The same is true in far-sightedness or astigmatism. For example, a near-sighted person may have an optimum distance of six inches. If glasses are worn, the vision is never as good at six inches as it is without them. This demonstrates that glasses lower the vision at six inches, or the optimum distance in this case. In far-sightedness without glasses, the optimum distance, at which objects are seen best, may be ten feet or further. If glasses are worn and the sight is improved at a nearer point, the vision without glasses at the optimum distance becomes worse.

Demonstrate

1. That sun treatment is an immediate benefit to many diseases of the eye.

Before the treatment, take a record of your best vision of the Snellen test card with both eyes together and each eye separately without glasses. Then sit in the sun with your eyes closed, slowly moving your head a short distance from side to side, and allowing the sun to shine directly on your closed eyelids. Forget about your eyes; just think of something pleasant and let your mind drift from one pleasant thought to another. Before opening your eyes, palm for a few minutes. Then test your vision of the test card and note the improvement. Get as much sun treatment as you possibly can, one, two, three or more hours daily.

When the sun is not shining, substitute a strong electric light. A 1,000 watt electric light is preferable, but requires special wiring. However, a 250 watt or 300 watt light can be used with benefit, and does not require special wiring. Sit about six inches from the light, or as near as you can without discomfort from the heat, allowing it to shine on your closed eyelids as in the sun treatment.

2. That the strong light of the sun focussed on the sclera, or white part of the eyeball, with the sun glass, also improves the vision.

After the eyes have become accustomed to the sunlight with the eyes closed, focus the light of the sun on the closed eyelids with the sun glass. Move the glass rapidly from side to side while doing this for a few minutes. Then have the patient open his eyes and look as far down as possible, and in this way, the pupil is protected by the lower lid. Gently lift the upper lid, so that only the white part of the eye is exposed, as the sun's rays fall directly upon this part of the eyeball. The sun glass may now be used on the white part of the eye for a few seconds, moving it quickly from side to side and in various directions. Notice that after the use of the sun glass, the vision is improved.

Demonstrate

1. That the drifting swing improves the sight.

Take a record of your best vision of the Snellen test card with both eyes together and each eye separately without glasses. Now close your eyes and imagine that you are occupying a canoe which is floating down some creek, river or stream. Imagine that the trees, houses and other stationary objects on either side are moving in the direction opposite to the way in which you are moving.

Another way in which to practice the drifting swing is as follows: With the eyes closed, recall a number of familiar objects which can be remembered easily. Sometimes in the course of a few minutes, fifty or one hundred objects may be remembered quickly and then forgotten. Remember each mental picture by central fixation; that is, think of only one part at a time of the object that you are remembering. Just let your mind drift easily from one object to another, without making any effort. Do not try to hold each object as remembered; forget it quickly. Notice that after practicing the above methods for a few minutes the vision for the test card is improved.

2. That the long swing improves the sight, relieves pain, fatigue and many other nervous symptoms.

Take a record of your best vision of the Snellen test card with both eyes together and each eye separately without glasses. Stand, with the feet about one foot apart, facing a blank wall. Turn the body to the left, at the same time raising the heel of the right foot. Now place the heel of the right foot on the floor in its usual position; then turn the body to the right, lifting the heel of the left foot.

The head and eyes move with the body; do not make any effort to see more distinctly stationary objects which are apparently moving. Practice this fifty to one hundred times, easily, without making any effort. Notice that after practicing, the vision for the test card improves.

VOLUNTARY PRODUCTION OF EYE TENSION A SAFEGUARD AGAINST GLAUCOMA

It is a good thing to know how to increase the tension of the eyeball voluntarily, as this enables one to avoid not only the strain that produces glaucoma, but other kinds of strain also. To do this proceed as follows:

Put the fingers on the upper part of the eyeball while looking downward, and note its softness. Then do any one of the following things:

Try to see a letter, or other object, imperfectly, or (with the eyes either closed or open) to imagine it imperfectly.

Try to see a letter, or a number of letters, all alike at one time, or to imagine them in this way.

Try to imagine that a letter, or mental picture of a letter is stationary.

Try to see a letter, or other object, double, or to imagine it double.

When successful, the eyeball will become harder in proportion to the degree of the strain, but, as it is very difficult to see, imagine, or remember, things imperfectly, all may not be able at first to demonstrate the facts.

[*The above article, which appeared in the December, 1920, issue of "Better Eyesight," is reprinted at the request of the editor, in connection with the other articles in this month's issue on "tension."*]

Favorable Conditions

The vision of the human eye is modified in many ways when the conditions are unfavorable to good sight. Unfavorable conditions may prevail when the light is not agreeable to the patient. Some patients require a very bright light and others get along much better in a poor light. Many cases are hypersensitive to the light and suffer from an intolerance for light which has been called photophobia.

While intolerance of light may be manifest in most cases from some diseases of the eyes, there are many cases in which the eye is apparently healthy and in which the photophobia may be extreme. (The cure for this condition is to have the patient sit in the sun with his eyes closed, allowing the sun to shine on his closed eyelids as he moves his head from side to side.)

There are patients with good sight whose vision is materially improved when used in a bright light, as well as those with good sight whose vision improves when the eyes are used in a dim light. The patient should practice with the test card in a bright as well as a dim light to accustom his eyes to all conditions.

The ability to perceive halos, or an increased whiteness, around letters is a favorable condition. By using a screen or a fenestrated card, it is possible for many patients to see an increased whiteness around a letter, which improves their vision for the letter. When a screen is not used, one may be able to imagine a white halo around the inner or outer edge of the black part of the "O." When a screen covers the black part of the letter "O," for instance, the white center becomes of the same whiteness as the rest of the white page, which proves that it is the contrast between the black and the white which enables one to imagine the white halos. The presence of the black improves the white; the presence of the white improves the black.

Eyestrain During Sleep

Many people complain that when they awaken in the morning, they are suffering from pain in their eyes or head. They often feel as weary as though they had been working hard all night long. Many of them do not recover from the pain and fatigue until after they have been up for an hour or longer. Their vision also may be found to be reduced to a very considerable degree. Some complain that they see illusions which are occasionally very slow in disappearing. One patient complained that the tiled floor of a bath room had a very strange appearance; although the tiles were white, to him they appeared blue and red alternately. A feeling of strain was always present and did not subside until the illusion had disappeared. It seemed as though the eyes were under a strain during sleep, because when the eyes were examined with the ophthalmoscope while the patient was asleep, a strain could readily be observed.

Sometimes, as in the case of many children, other parts of the body may be under a strain during sleep. By an unconscious effort, the muscles of the face, arms and limbs may be distorted as may be muscles of different parts of the eyeball. In some cases, the strain produces accommodation or myopia, while in other cases, hypermetropia or astigmatism are produced by this unconscious effort. These eyes frequently were found to be normal during the day.

The treatment to prevent eyestrain during sleep is not always successful. Some patients obtain most relief by practicing the long swing one hundred times or more just before retiring and the same number of times in the morning immediately after awakening. Other patients find that palming for twenty minutes before retiring is a help, and frequently the palms are left in place with benefit after the patients have lost consciousness.

The Thumb Movement

Rest the hand against an immovable surface. Place the ball of the thumb lightly in contact with the forefinger. Now move the end of the thumb in a circle of about one-quarter of an inch in diameter. When the thumb moves in one direction, the forefinger should appear to move in the opposite direction, although in reality it is stationary. In the practice of the universal swing, everything is imagined to be moving in the same direction, except the eyes. With the aid of the thumb movement, however, one can imagine the spine and the head moving opposite to the direction of motion of the thumb, while the eyes, being fastened to the head, also move with the head and hand.

While watching the movement of the thumb, remember imperfect sight. At once, the thumb movement becomes irregular or may stop altogether. Demonstrate that any effort, no matter how slight, to see, remember or imagine, interferes with the movement of the thumb. The thumb is so sensitive to an effort or strain that the slightest effort is at once recorded by the motion.

While watching the movement of the thumb, remember perfect sight. Notice that the movement of the thumb is slow, short, continuous, and restful—with relaxation of all parts of the body.

Many patients have been successfully treated for pain, fatigue, and dizziness with the help of the thumb movement, after other treatment had failed. Some patients with severe pain complain that when they forget to practice the movement of the thumb, the pain comes back.

Not only have patients suffering from pain and symptoms of fatigue been relieved, but an equal number have been relieved of imperfect sight by the correct practice of the thumb movement.

First Visit Cures

The word "cures" is used advisedly. It is a fact that some people have been cured of myopia in one visit, after relaxation of the nerves of the eyes and other parts of the body was obtained.

Suppose the patient is near-sighted and can only see the big letter "C" at fifteen feet, a vision of 15/200. Let the patient walk up close to the card until he can read the bottom line. The distance may be three feet, five feet or farther. The first letter on the bottom line may be the letter "F." With the eyes open, it is possible for the patient to imagine the letter "F" quite perfectly, but with the eyes closed, he is more easily able to remember and imagine he sees the letter "F" much better.

Palming is a great help when remembering or imagining the letter "F" with the eyes closed. By alternately imagining the letter "F" with the eyes open, and remembering or imagining it better with the eyes closed, the memory, the imagination and finally the vision for the letter "F" is very much improved.

If the patient becomes able to see the letter "F" at three feet, or to imagine he sees it quite perfectly, he should be encouraged to walk back and increase the distance between the eyes and the letter "F" about one foot. When the patient becomes able to imagine the letter "F" at four feet, he should go back another foot, alternately imagining it with his eyes open and remembering it much better with his eyes closed. By gradually increasing the distance of the eyes from the letter "F," all patients who practiced this method obtained normal vision temporarily at the first visit.

The length of time required to obtain a permanent cure is variable. Some patients with not more than one or two diopters of myopia may require many weeks or months of daily treatment before they are permanently cured, while others with a higher degree of myopia sometimes obtain a cure in a much shorter time.

Brain Tension

The brain has many nerves. Part of these nerves are called ganglion cells and originate in some particular part of the brain. Each has a function of its own. They are connected with other ganglion cells and with the aid of nerve fibres are connected with others located in various parts of the brain as well as in the spinal cord, the eye, the ear, the nerves of smell, taste, and the nerves of touch. The function of each ganglion cell of the brain is different from that of all others. When the ganglion cells are healthy, they function in a normal manner.

The retina of the eye contains numerous ganglion cells which regulate special things such as normal vision, normal memory, normal imagination and they do this with a control more or less accurate of other ganglion cells of the whole body. The retina has a similar structure to parts of the brain. It is connected to the brain by the optic nerve.

Many nerves from the ganglion cells of the retina carry conscious and unconscious control of other ganglion cells which are connected to other parts of the body.

When the ganglion cells are diseased or at fault, the functions of all parts of the body are not normally maintained. In all cases of imperfect sight, it has been repeatedly demonstrated that the ganglion cells and nerves of the brain are under a strain. When this strain is corrected by treatment, the functions of the ganglion and other cells become normal. The importance of the mental treatment cannot be over-estimated.

A study of the facts has demonstrated that a disease of some ganglion in any part of the body occurs in a similar ganglion in the brain.

Brain tension of one or more nerves always means disease of the nerve ganglia. Treatment of the mind with the aid of the sight, memory and imagination has cured many cases of imperfect sight without other treatment.

Color Blindness

Some people are unable to distinguish red from blue or other colors. Many doctors explain color blindness to be due to something wrong with the retina, optic nerve or brain. They believe that organic changes in the retina are the principal cause. But this is not always true because, in some cases, cures occur without any apparent change in the retina.

I have found that color blindness occurs in a great many cases in an eye apparently normal. There are, however, a number of individuals who can be demonstrated to have color blindness as a result of a disease of the retina caused by mental strain. These cases cannot be cured, however, until the disease of the retina is cured.

Some patients with color blindness are sensitive to a bright light. On the other hand, there are patients with color blindness who are more comfortable in a bright light. These patients are usually relieved by the practice of sun treatment, central fixation, palming, the long swing, or any other method which brings about relaxation.

One patient had a normal perception for colors at three feet and at ten feet. But at a nearer point than three feet she was color blind, the blindness being most marked at three inches. At a distance greater than ten feet the color blindness was evident. After her eyestrain was relieved by relaxation her color blindness disappeared.

People who have been born color blind as well as those who have acquired color blindness have all been cured by the practice of relaxation methods.

Subjective Conjunctivitis

By subjective conjunctivitis is meant that the conjunctiva is inflamed without the evidence of disease. Many people with subjective conjunctivitis will complain of a foreign body in the eye and yet careful search with the use of a good light and a strong magnifying glass will reveal no foreign body present. Some people with subjective conjunctivitis complain that they have granulated lids and that they suffer from time to time from the presence of little pimples on the inside of the eyelids and the pain that they suffer is out of proportion to the cause that they give to it. Among the many symptoms of subjective conjunctivitis may be a flow of tears from very slight irritants. However, the tear ducts, with the aid of which the tears are drained from the eye, are usually open in these cases and they are sufficiently open to receive a solution of boracic acid which may be injected through the tear duct into the nose. This shows that the tear duct is open normally, and therefore can drain the tears from the eyes.

Dr. C. R. Agnew, at one time professor of ophthalmology at Columbia University, gave many lectures on subjective conjunctivitis in 1885 and 1886. The treatment which he advocated was dry massage of the whole body and I can testify that it was an excellent remedy. However, the treatment which I found was the greatest benefit was the aqueous extract of the suprarenal capsule, or adrenalin, the properties of which I discovered, using one drop in each eye three times a day.

Many cases were benefited by the sun treatment, by central fixation and by the practice of the universal swing.

Dark Glasses Are Injurious

He was a very intelligent chauffeur, and very polite and popular with most people. I enjoyed listening to his experiences in driving various types of cars. Nothing seemed to give him so much pleasure as to get into a "jam" and get out without suffering any injury to his own car or without tearing the "enemy" apart. The "enemy," as he explained, were the numerous other cars which were driven by chauffeurs who did not understand their business very well and who enjoyed teasing the inexperienced drivers.

One day we were driving to the seashore. The sun was very bright and the reflection of the light from the sun on the water was very strong and made most of the occupants of the car very uncomfortable. Personally I enjoyed the strong light of the sun. The chauffeur did not wear glasses for the protection of his eyes from the sun or dust and I asked him if he had ever worn them. He very promptly answered me by saying that he had worn them at one time, but discontinued wearing them because he found that after wearing them for a few days, his eyes became more sensitive to the light than they were before. He said he could not understand why it was that when he wore glasses to protect his eyes from the dust he accumulated more foreign bodies in his eyes than ever before. This seemed strange to the people in the car and they asked him to explain. It was decided that when the dust got into the eyes, the glasses prevented the dust from going out.

The eyes need the light of the sun. When the sun's rays are excluded from the eyes by dark glasses, the eyes become very sensitive to the sun when the glasses are removed.

Suggestions

It is recommended by the editor of this magazine that every family should obtain a Snellen test card and place it on the wall of some room where it can be seen and read every day by all the members of the family. Not only does the daily reading of the card help the sight of children, but it is a benefit to the eyes of adults as well.

It is a well known fact that when most people arrive at the age of forty or fifty years, they find that their vision for reading or sewing is lowered. These people believe that they must put on glasses to prevent eyestrain, cataract, glaucoma, et cetera. Daily practice with the Snellen test card, together with the reading of fine print close to the eyes will overcome their difficulty. Reading fine print close to the eyes, contrary to the belief of many ophthalmologists, is a benefit to the eyes of both children and adults.

It has been repeatedly demonstrated, however, that fine print cannot be read clearly or easily when an effort is made. When the eyes look directly at the letters, an effort is required, while looking at the white spaces between the lines is a rest, and by practice in this way, one can become able to see the letters clearly, without looking directly at them. When a patient looks at the white spaces between the lines of ordinary book type, he can read for hours and no fatigue, pain or discomfort is felt. When discomfort and pain in the eyes is felt while reading, it is because the patient is looking directly at the letters.

Eyestrain

The eyes of all people with imperfect sight are under a strain. This is a truth. Most people believe that during sleep the eyes are at rest and that it is impossible to strain the eyes while sound asleep. This, however, is not true. Persons who have good sight in the daytime under favorable conditions may strain their eyes during sleep. Many people awake in the morning suffering pain in the eyes or head. Often the eyes are very much fatigued and have a feeling of discomfort. There may be also a feeling of nervous tension from the eyestrain, or there may be a feeling as of sand in the eyes. At times all parts of the eye may be suffering from inflammation. The vision is sometimes lowered for several hours whereupon it begins to improve until it becomes as good as it was before the person retired the night before. Many people become alarmed and seek the services of some eye doctor. Usually the doctor or doctors consulted prescribe glasses which very rarely give more than imperfect or temporary relief.

There are various methods of correcting eyestrain occurring during sleep. Palming is very helpful even when practiced for a short time. A half an hour is often sufficient to relieve most if not all of the symptoms. In some cases the long swing, practiced before retiring, is sufficient to bring about temporary or permanent benefit. Blinking and shifting are also helpful. Good results have been obtained by practicing a perfect memory or imagination of one small letter of the Snellen test card alternately with the eyes open and closed. A number of patients were benefited and usually cured by remembering pleasant things perfectly.

No Glasses for Quick Results

The first and best thing that all patients should do after their first treatment, or before, is to discard their glasses. It is not always an easy thing to do but it is best for the patient and for the teacher. It is true that at one time I did not encourage patients to learn the treatment unless they discarded their glasses permanently. But since I have studied more about my method and have encouraged some of my clinic patients to wear their glasses at times while under treatment, I find that some of them obtained a cure but it required double the amount of time that was required to cure those who discarded their glasses permanently. During the treatment when the glasses are worn temporarily, even for a short time, the vision sometimes becomes worse and in most cases a relapse is produced. It is much more difficult to regain the lost ground than ever before, and sometimes causes much discomfort.

Glasses for the correction of myopia do not fit the eyes all the time. To obtain good vision with glasses an effort is required to make the eyes change their focus to have the same error of refraction as the glasses correct. When the vision is benefited most perfectly by glasses it is necessary for the eyes to change frequently. To learn the amount of myopia in the eyes by trying different glasses to find the glass which continuously improves the vision best is usually difficult because the amount of the myopia changes so frequently. To change the amount of myopia requires an effort. Some people complain that no glasses fit their eyes permanently. These cases are benefited by discarding their glasses for a longer or a shorter period while being treated. Patients who require good sight to earn a living and find it difficult to discard their glasses while under treatment, have been able to make slow or rapid progress in the cure of their imperfect sight by wearing their glasses only when it was absolutely necessary.

Practice Time

A large number of people have bought the book "Perfect Sight Without Glasses" but do not derive as much benefit from it as they should because they do not know how long they should practice.

Rest: The eyes are rested in various ways. One of the best methods is to close the eyes for half an hour after testing the sight. This usually improves the vision.

Palming: With the eyes closed and covered with the palms of both hands the vision is usually benefited. The patient should do this five minutes hourly.

Shifting: The patient looks from one side of the room to the other, alternately resting the eyes. This may be done three times daily for half an hour at a time. The head should move with the eyes and the patient should blink.

Swinging: When the shifting is slow, stationary objects appear to move from side to side. This should be observed whenever the head and eyes move.

Long Swing: Nearly all persons should practice the long swing one hundred times daily.

Memory: When the vision is perfect, it is impossible for the memory to be imperfect. One can improve the memory by alternately remembering a letter with the eyes open and closed. This should be practiced for half an hour twice daily.

Imagination: It has been frequently demonstrated and published in this magazine that the vision is only what we imagine it to be. Imagination should be practiced whenever the vision is tested. Imagine a known letter with the eyes open and with the eyes closed. This should be practiced for ten minutes twice daily.

Repetition: When one method is found which improves the vision more than any other method, it should be practiced until the vision is continuously improved.

Practice Methods

Many people have asked for help in choosing the best method of treatment for their particular eye trouble. A woman aged sixty complained that she had never been free of pain; pain was very decided in her eyes and head. She also had continuous pain in nearly all the nerves of the body. The long swing when practiced 100 times gave her great relief from pain. The relief was continuous without any relapse. At the same time a second woman of about the same age complained of a similar pain which, like the first patient, she had had almost continuously. She was also relieved by practicing the long swing. The long swing was practiced by other people with a satisfactory result.

It seemed that the swing was indicated for pain; it seemed to bring about better results than any other treatment. Later on, however, some patients applied for relief from pain which was not benefited by the long swing. Evidently one kind of treatment was not beneficial in every case. A man suffering from tri-facial neuralgia which caused great agony in all parts of the head was not relieved at all by the long swing. Palming seemed to be more successful in bringing about relief. Furthermore, there were patients who did not obtain benefit after half an hour of palming who did obtain complete relief after palming for several hours.

Patients with cataract recovered quite promptly when some special method was tried.

The experience obtained by the use of relaxation methods in the cure of obstinate eye troubles has proved that what was good for one patient was not necessarily a benefit to other patients suffering from the same trouble, and that various methods must be tried in each case in order to determine which is the most beneficial for each particular case.

Time For Practice

So many people with imperfect sight say that they have not the time to practice relaxation methods, as their time is taken up at business or in the performance of other duties. I always tell such people, however, that they have just as much time to use their eyes correctly as incorrectly.

They can imagine stationary objects to be moving opposite whenever they move their head and eyes. When the head and eyes move to the left, stationary objects should appear to move to the right, and vice versa.

They can remember to blink their eyes in the same way that the normal eye blinks unconsciously, which is frequently, rapidly, continuously, without any effort or strain, until by conscious practice, it will eventually become an unconscious habit, and one that will be of benefit to the patient.

They can remember to shift or look from one point to another continuously. When practicing shifting, it is well to move the head in the same direction as the eyes move. If the head moves to the right, the eyes should move to the right. If the head moves to the left, the eyes should move to the left. By practicing in this way, relaxation is often obtained very quickly, but if the eyes are moved to the right and at the same time the head is moved to the left, a strain on the nerves of the eyes and the nerves of the body in general is produced.

Correspondence Treatment

Many letters are received from people in various parts of the world who find it impossible to come to New York and who believe that something might be done for them by correspondence treatment. I do not advocate correspondence treatment as a general rule, as the results are uncertain. There is always the possibility that the patient will not practice correctly the things which he is told to do.

If a patient has had one treatment at my office or at the office of one of my representatives, it is possible to treat that patient more intelligently through correspondence.

Some years ago a gentleman living a thousand miles from New York called and asked if anything could be done through correspondence for his wife who was bedridden and suffering with an agony of pain in her eyes. He described all her symptoms to me and gave me her last prescription for glasses. He was told that if he would take the treatment in my office, and so learn how to treat his wife, it would be possible for him to aid her intelligently when he went home. He did this and after taking several treatments, returned. He wrote me later saying that his wife was almost cured.

When my book, "Perfect Sight Without Glasses," is read carefully, those things which are not understood may be cleared up by intelligent questions, which I am always pleased to answer. I do not consider this as regular correspondence treatment.

The Period

Many people have difficulty in obtaining a mental picture of a small black period. They may try to see it by an effort which always fails. They may persist in their efforts to see or remember it, paying little or no attention to their failures or the cause of their failures. As long as they continue to strain by trying to see, they will always fail; the period becomes more indistinct.

A small black period is very readily seen. There is no letter, no figure, no object of any kind which can be obtained more easily. Demonstrate that an effort to see a small black period by staring, concentrating, trying to see, always makes it worse. Rest, relaxation, the swing, shifting, are all a great help. Practice with a large black letter. Imagine that the upper right corner has a small black period. Do the same with other parts of the large letter. This practice will enable you to understand central fixation, seeing best where you are looking. Central fixation can always be demonstrated when the sight is good. When the sight is poor or imperfect, central fixation is absent.

The benefits which can be obtained from the use of the period are very numerous. A perfect memory can only be obtained when the sight is perfect. A perfect imagination can only be obtained when the sight and the memory are perfect. The period is the smallest letter or other object which is perfect or becomes perfect by perfect memory or perfect imagination.

Blinking

Blinking is one of the best methods that may be employed to obtain relaxation or rest. When rest is obtained by blinking, the vision is improved, not only for one letter or part of one letter, but for all the letters of a page, which may be seen some parts best, other parts not so well. This is called central fixation and one cannot see anything clearly without it. In order to maintain central fixation, there should be continuous opening and closing of the eyes by blinking which makes it easier for the vision to improve. When the eye discontinues to blink, it usually stares, strains, and tries to see. Blinking is beneficial only when practiced in the right way.

What is the right way? The question may be answered almost as briefly as it is asked. Blinking when done properly is slow, short, and easy. One may open and close the eyes an innumerable number of times in one second, and do so unconsciously.

Lord Macauley was able to read a page of print in one second, and blinked for every letter. In order to read perfectly, he had to see each side of every letter by central fixation. We know that he acquired or had a perfect memory, because it was only with a perfect memory that he could recite the pages of any book which he had read many years before.

A casual observer would not be able to determine the number of times Lord Macaulay blinked, as it was done so quickly and easily, without any effort on his part. While most of us will not be able to blink without effort as frequently as Lord Macauley did, it is well to practice his methods as well as we can. Those with imperfect sight who do not blink sufficiently should watch someone with normal eyes blink unconsciously and then imitate him.

Shifting

When the normal eye has normal sight it is at rest and when it is at rest it is always moving or shifting. Shifting may be done consciously with improvement in the vision, or it may be done unconsciously with impaired vision.

Shifting can be practiced correctly and incorrectly. A wrong way to shift is to turn the head to the right while the eyes are turned to the left, or to turn the head to the left while the eyes are turned to the right.

To improve imperfect sight by shifting, it is well to move the head and eyes so far away that the first letter or object imagined is too far away to be seen at all clearly. Shifting from small letters to large letters alternately may be a greater benefit than shifting from one small letter to another small letter. Quite frequently the vision is decidedly improved by shifting continuously from one side of a small letter to the other side, while the letter is imagined to be moving in the opposite direction. When the shifting is slow, short, and easy, the best results in the improvement in the vision are obtained. Any attempt to stop the shifting always lowers the vision. The letter or other object which appeared to move is usually shifting a short distance—one half or one quarter of an inch. It is not possible to imagine any particular letter or other object stationary for a longer time than one minute.

While the patient is seated, benefit can be obtained from shifting, but even more benefit can be obtained when the shifting is practiced while the patient is standing and moving the head and shoulders, in fact the whole body, a very short distance from side to side. Shifting the whole body makes it easier to shift a short distance and may explain why this method is best.

Go to the Movies

(Editor's Note.—Recently a great many letters have come from patients and others asking if the movies were injurious to the eyes. For the benefit of these inquirers we are reprinting an article which appeared in this magazine in October, 1920.)

Cinematograph pictures are commonly supposed to be very injurious to the eyes, and it is a fact that they often cause much discomfort and lowering of vision. They can, however, be made a means of improving the sight. When they hurt the eyes it is because the subject strains to see them. If this tendency to strain can be overcome, the vision is always improved, and if the practice of viewing the pictures is continued long enough, nearsight, astigmatism and other troubles are cured.

If your sight is imperfect, therefore, you will find it an advantage to go to the movies frequently and learn to look at the pictures without strain. If they hurt your eyes look away to the dark for a while, then look at a corner of the picture; look away again, and then look a little nearer to the center; and so on. In this way you may soon become able to look directly at the picture without discomfort. If this does not help, try palming for five minutes or longer. Dodge the pain, in short, and prevent the eyestrain by constant shifting, or by palming.

Mental Pictures

With imperfect sight, a mental picture of one known letter of the Snellen test card is seldom or never remembered, imagined, or seen perfectly when regarded with the eyes open. By closing the eyes, the same mental picture may be imagined more perfectly. By alternately imagining the known letter as well as possible with the eyes open and then remembering it better with the eyes closed, the imagination improves the vision and unknown letters are seen with the eyes open.

The improvement of the vision is due to a lessening of the organic changes in the eye. When the imperfect sight is caused by opacities of the cornea, a mental picture imagined clearly lessens or cures the disease of the cornea. A large number of cases of cataract in which the lens is more or less opaque have been benefited or cured by the imagination of mental pictures. Nearly all organic changes in the eyeball which lower the vision have been improved to some extent in a few minutes; by devoting a sufficient amount of time, all organic changes in the eyeball, no matter what the cause may be, are benefited or cured by a perfect imagination of a letter, a tree, a flower, or anything which is remembered perfectly.

I do not know of any method of obtaining relaxation or perfect sight which is as efficient and certain as the imagination of mental pictures. It should be emphasized that a good or perfect imagination of mental pictures has in all cases brought about a measure of improvement which is convincing that the imagination is capable of relieving organic changes in the eye more quickly, more thoroughly, more permanently, than any other method.

Comparisons

In practising with the Snellen test card, when the vision is imperfect, the blackness of the letters is modified and the white spaces inside the letters are also modified. By comparing the blackness of the large letters with the blackness of the smaller ones it can be demonstrated that the larger letters are imperfectly seen.

When one notes the whiteness in the center of a large letter, seen indistinctly, it is usually possible to compare the whiteness seen with the remembered whiteness of something else. By alternately comparing the whiteness in the center of a letter with the memory of a better white, as the snow on the top of a mountain, the whiteness of the letter usually improves. In the same way, comparing the shade of black of a letter with the memory of a darker shade of black of some other object may be also a benefit to the black.

Most persons with myopia are able to read fine print at a near point quite perfectly. They see the blackness and whiteness of the letters much better than they are able to see the blackness of the larger letters on the Snellen test card at 15 or 20 feet. Alternately reading the fine print and regarding the Snellen test card, comparing the black and white of the small letters with the black and white of the large letters, is often times very beneficial. Some cases of myopia have been cured very promptly by this method.

All persons with imperfect sight for reading are benefited by comparing the whiteness of the spaces between the lines with the memory of objects which are whiter. Many persons can remember white snow with the eyes closed whiter than the spaces between the lines. By alternately closing the eyes for a minute or longer, remembering white snow, white starch, white paint, a white cloud in the sky with the sun shining on it, and flashing the white spaces without trying to read, many persons have materially improved their sight and been cured.

The Colon

While the colon is a valuable punctuation mark, it has a very unusual and better use in helping the memory, imagination, and sight. Medium sized or small letters at the distance are improved promptly by the proper use of the colon. While the eyes are closed or open, the top period should be imagined best while the lower period is more or less blurred and not seen so well. In a few moments it is well to shift and imagine the lower period best while the upper period is imagined not so well. Common sense makes it evident that one period cannot be imagined best unless there is some other period or other object which is seen worse. The smallest colon that can be imagined is usually the one that is imagined more readily than a larger colon.

When palming, swinging, et cetera, cannot be practiced sufficiently well to obtain improvement in the eyesight, the memory or imagination of the small colon, one part best, can usually be practiced with benefit. To remember or imagine a colon perfectly requires constant shifting. When the colon is remembered or imagined perfectly, and this cannot be done by any effort or strain, the sight is always improved and the memory and imagination are also improved. It is interesting to note that the smaller the colon, the blacker and better can one remember, imagine, or see one period of it, with benefit to the sight. One may feel that the memory of a very small colon should be more difficult than the memory of a large one, but strange to say it can be demonstrated in most cases that the very small colon is remembered best. If the movement of the colon is absent, the sight is always imperfect. In other words, it requires a stare, strain, and effort to make the colon stop its apparent motion.

The Memory Swing

The memory swing relieves strain and tension as do the long or the short swings which have been described at various times. It is done with the eyes closed while one imagines himself to be looking first over the right shoulder and then over the left shoulder, while the head is moved from side to side. The eyeballs may be seen through the closed eyelids to move from side to side in the same direction as the head is moved. When done properly, the memory swing is just as efficient as the swing which is practiced with the eyes open, whether it be short or long.

The memory swing can be shortened by remembering the swing of a small letter, a quarter of an inch or less, when the eyes are closed.

The memory swing has given relief in many cases of imperfect sight from myopia, astigmatism, and inflammations of the outside of the eyeball as well as inflammations of the inside of the eyeball. It is much easier than the swing practiced with the eyes open and secures a greater amount of relaxation or rest than any other swing. It may be practiced incorrectly, just as any swing may be done wrong, and then no benefit will be obtained.

Improve Your Sight

When convenient, practice the long swing. Stand with the feet about one foot apart, turn the body to the right, at the same time lifting the heel of the left foot. The head and eyes move with the body. Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate.

Rest your eyes continually by blinking. The normal eye blinks irregularly but continuously. When convenient, practice blinking in the following way: Count irregularly and blink for each count. By consciously blinking correctly, it will in time become an unconscious habit.

When the mind is awake it is thinking of many things. One can remember things perfectly or imagine things perfectly, which is a rest to the eyes, mind, and the body generally. The memory of imperfect sight should be avoided because it is a strain and lowers the vision.

Read the Snellen test card at 20 feet with each eye, separately, twice daily or oftener when convenient. Imagine the white spaces in letters to be whiter than the rest of the card. Do this alternately with the eyes closed and opened. Plan to imagine the white spaces in letters just as white, in looking at the Snellen test card, as can be accomplished with the eyes closed.

Whenever convenient, close your eyes for a few minutes and rest them.

The Flashing Cure

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence, you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

The Imagination Cure

When the imagination is perfect the mind is always perfectly relaxed, and as it is impossible to relax and imagine a letter perfectly, and at the same time strain and see it imperfectly, it follows that when one imagines that one sees a letter perfectly one actually does see it, as demonstrated by the retinoscope, no matter how great an error of refraction the eye may previously have had. The sight, therefore, may often be improved very quickly by the aid of the imagination. To use this method the patient may proceed as follows:

Look at a letter at the distance at which it is seen best. Close and cover the eyes so as to exclude all the light, and remember it. Do this alternately until the memory is nearly equal to the sight. Next, after remembering the letter with the eyes closed and covered, and while still holding the mental picture of it, look at a blank surface a foot or more to the side of it, at the distance at which you wish to see it. Again close and cover the eyes and remember the letter, and on opening them look a little nearer to it. Gradually reduce the distance between the point of fixation and the letter, until able to look directly at it and imagine it as well as it is remembered with the eyes closed and covered. The letter will then be seen perfectly, and other letters in its neighborhood will come out. If unable to remember the whole letter, you may be able to imagine a black period as forming part of it. If you can do this, the letter will also be seen perfectly.

See Things Moving

When the sight is perfect the subject is able to observe that all objects regarded appear to be moving. A letter seen at the near point or at the distance appears to move slightly in various directions. The pavement comes toward one in walking, and the houses appear to move in a direction opposite to one's own. In reading, the page appears to move in a direction opposite to that of the eye. If one tries to imagine things stationary, the vision is at once lowered and discomfort and pain may be produced, not only in the eyes and head, but in other parts of the body.

This movement is usually so slight that it is seldom noticed till the attention is called to it, but it may be so conspicuous as to be plainly observable even to persons with markedly imperfect sight. If such persons, for instance, hold the hand within six inches of the face and turn the head and eyes rapidly from side to side, the hand will be seen to move in a direction opposite to that of the eyes. If it does not move, it will be found that the patient is straining to see it in the eccentric field. By observing this movement it becomes possible to see or imagine a less conspicuous movement, and thus the patient may gradually become able to observe a slight movement in every object regarded. Some persons with imperfect sight have been cured simply by imagining that they always see things moving.

The world moves. Let it move. All objects move if you let them. Do not interfere with this movement, or try to stop it. This cannot be done without an effort which impairs the efficiency of the eye and mind.

How Not to Concentrate

To remember the letter O of diamond type continuously and within effort proceed as follows:

Imagine a little black spot on the right-hand side of the O blacker than the rest of the letter; then imagine a similar spot on the left-hand side. Shift the attention from the right-hand spot to the left, and observe that every time you think of the left spot the O appears to move to the right, and every time you think of the right one it appears to move to the left. This motion, when the shifting is done properly, is very short, less than the width of the letter. Later you may become able to imagine the O without conscious shifting and swinging, but whenever the attention is directed to the matter these things will be noticed.

Now do the same with a letter on the test card. If the shifting is normal, it will be noted that the letter can be regarded indefinitely, and that it appears to have a slight motion.

To demonstrate that the attempt to concentrate spoils the memory, or imagination, and the vision:

Try to think continuously of a spot on one part of an imagined letter. The spot and the whole letter will soon disappear. Or try to imagine two or more spots, or the whole letter, equally black and distinct at one time. This will be found to be even more difficult.

Do the same with a letter on the test card. The results will be the same.

The Optimum Swing

The optimum swing is the swing which gives the best results under different conditions.

Most readers of this magazine and of "Perfect Sight Without Glasses" know about the swing. The swing may be spontaneous; that is to say, when one remembers a letter perfectly or sees a letter perfectly and continuously without any volition on his part he is able to imagine that it is a slow, short, easy swing. The speed is about as fast as one would count orally. The width of the swing is not more than the width of the letter, and it is remembered or imagined as easily as it is possible to imagine anything without any effort whatsoever. The normal swing of normal sight brings the greatest amount of relaxation and should be imagined. When one is able to succeed then it becomes the optimum swing under favorable conditions. Nearsighted persons have this normal optimum swing usually at the near point when the vision is perfect. At the distance where the vision is imperfect the optimum swing is something else. It is not spontaneous but has to be produced by a conscious movement of the eyes and head from side to side and is usually wider than the width of the letter, faster than the normal swing, and not so easily produced.

When one has a headache or a pain in the eyes or in any part of the body the optimum swing is always wider and more difficult to imagine than when one has less strain of the eyes. Under unfavorable conditions the long swing is the optimum swing, but under favorable conditions when the sight is good, the normal swing of the normal eye with normal sight is the optimum swing. The long swing brings a measure of relief when done right and makes it possible to shorten it down to the normal swing of the normal eye.

Methods that Have Succeeded in Presbyopia

The cure of presbyopia, as of any other error of refraction, is rest, and many presbyopic patients are able to obtain this rest simply by closing the eyes. They are kept closed until the patient feels relieved, which may be in a few minutes, half an hour, or longer. Then some fine print is regarded for a few seconds. By alternately resting the eyes and looking at fine print many patients quickly become able to read it at eighteen inches, and by continued practice they are able to reduce the distance until it can be read at six inches in a dim light. At first the letters are seen only in flashes. Then they are seen for a longer time, until finally they are seen continuously. When this method fails, palming may be tried, combined with the use of the memory, imagination and swing. Particularly good results have been obtained from the following procedure:

Close the eyes and remember the letter *o* in diamond type, with the open space as white as starch and the outline as black as possible.

When the white center is at the maximum imagine that the letter is moving, and that all objects, no matter how large or small, are moving with it.

Open the eyes and continue to imagine the universal swing.

Alternate the imagination of the swing with the eyes open with its imagination with the eyes closed.

When the imagination is just as good with the eyes open as when they are closed the cure will be complete.

Stop Staring

It can be demonstrated by tests with the retinoscope that all persons with imperfect sight stare, strain, or try to see. To demonstrate this fact:

Look intently at one part of a large or small letter at the distance or nearpoint. In a few seconds, usually, fatigue and discomfort will be produced, and the letter will blur or disappear. If the effort is continued long enough, pain may be produced.

To break the habit of staring:

(1) Shift consciously from one part to another of all objects regarded, and imagine that these objects move in a direction contrary to the movement of the eye. Do this with letters on the test card, with letters of fine print, if they can be seen, and with other objects.

(2) Close the eyes frequently for a moment or longer. When the strain is considerable, keep the eyes closed for several minutes and open them for a fraction of a second—flashing. When the stare is sufficient to keep the vision down to 2/200 or less, palm for a longer or shorter time; then look at the card for a moment. Later mere closing of the eyes may afford sufficient rest.

(3) Imagine that the white openings and margins of letters are whiter than the rest of the background. Do this with eyes closed and open alternately. It is an interesting fact that this practice prevents staring and improves the vision rapidly.

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand It is also profusely illustrated with original photographs.

Price $5.00, post-paid
Sent on approval.

Central Fixation Publishing Company
300 Madison Avenue, 41st Street

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. V | DECEMBER, 1921 | No. 6

Think Right

The Correction of Imperfect Sight Without Glasses
By Dr. Etha Marion Jones

Mental Control in Relation to Vision
By W. H. Bates, M. D.

Christmas at the Clinic
By Emily C. Lierman

$2.00 per year | 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
300 MADISON AVENUE NEW YORK, N. Y.

Doctors are needed all over the world to cure people without glasses

THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

VOL. V. | DECEMBER, 1921 | No. 6

THE CORRECTION OF IMPERFECT SIGHT WITHOUT GLASSES

BY DR. ETHA MARION JONES

THE correction of imperfect sight by Central Fixation, as taught by Dr. Bates, first came under my observation one year ago this September while assisting for a month in the practice of my friends, Drs. H. S. and Jennie K. Beckler, of Staunton, Virginia. I was astonished at the results they were obtaining in eye cases and at once began to study the system under their supervision.

About the same time I received a letter from a sister of mine, a teacher in the Detroit Public Schools, who had worn glasses for twenty years for myopia and astigmatism. She stated in her letter that she had discarded her glasses and was taking the Central Fixation treatment from an osteopathic physician in Detroit who had been a student of Dr. Bates. The treatment was continued during the winter, my sister keeping right on with her school work and doing extra reading at night without suffering with headaches as she had previously done. On seeing her this summer I was agreeably surprised at the change in her appearance. The strained look

Copyright, 1921, by the Central Fixation Publishing Company

about the eyes and face had given place to one of relaxation, the eyes were straight, and the nervous system had lost its tension and gained a poise formerly unknown. The retinoscope showed no errors of refraction in either eye.

Encouraged by this and other cases, I decided to prepare myself to specialize in this work. After studying the anatomy, pathology and physiology of the eye all last winter, and treating several patients as best I could with my limited knowledge of the system, I decided that what I now needed most was a course of personal instruction from Dr. Bates. I went to New York for this purpose a few months ago and spent a wonderful fortnight there. The course included work in Dr. Bates' clinic held three times a week in the Harlem Hospital. The hospital being in one of the colored sections of the city, many of the patients are negroes, and they are very appreciative, too; but both white and colored come in droves to be cured of all kinds of eye afflictions. Here I had a good opportunity to study eyes by means of the retinoscope and ophthalmoscope, and I observed the changes in the refraction and pathology as the treatment progressed. I can tell of only a few of the remarkable cases which I saw, for it would take days to tell about them all.

I was especially interested in a case of squint in a girl of fourteen, who had been attending the clinic about three months before I saw her. She had worn glasses since she was four years of age to correct the trouble, but had been growing gradually worse. When her sight was first tested she read 12/40 with her left or better eye. When asked to read the card with her squinting eye, she turned her head half way around to the left in trying to see it. Mrs. Lierman gave her one simple relaxing exercise to do and left her for a few minutes. At the next test she read 12/40 with the squinting eye without turning her head. Of course, that was temporary relief, as on straining again the squint would

recur; but it showed what could be done by continuous treatment, and when I left New York the right eye was as straight as the left and did not change when the patient was excited or annoyed, or on reading or studying. She told me she could read or study for hours at a time without headaches or discomfort, while before coming to the clinic she could look at a book for only a few minutes at a time.

A negress, seventy-two years old, was responding wonderfully to treatment for cataract in the advanced stage. She had been in the clinic for two months. At first she could not distinguish the large C at the top of the test card. Before I left she could read 10/40 with both eyes.

A girl of twelve was suffering from retinitis pigmentosa, a condition generally pronounced incurable, in which spots of black pigment are deposited in the retina, parts of the retina destroyed and the nerve of sight diseased. On examination by the test card, the patient could read only the seventy line at five feet. Nystagmus was one of her worst symptoms, the eyes vibrating continually from side to side. She was extremely nervous, and very sensitive in regard to her condition, the slightest annoyance making her worse. At the first treatment, the nystagmus temporarily stopped, and she read the fifty line instead of the seventy at five feet. The last day I saw her at the clinic she could read the twenty line through at ten feet, and the nystagmus had entirely disappeared.

After seeing these things it would seem impossible for anyone to doubt that Dr. Bates' discoveries are bound, before long, to revolutionize the practice of ophthalmology. They offer hope to millions for whom formerly there was no hope, and I am glad to have a share in the wonderful work of making them available to the world of eye sufferers.

470 First Avenue, North, St. Petersburg, Fla.

STOP STARING

It can be demonstrated by tests with the retinoscope that all persons with imperfect sight stare, strain, or try to see. To demonstrate this fact:

Look intently at one part of a large or small letter at the distance or nearpoint. In a few seconds, usually, fatigue and discomfort will be produced, and the letter will blur or disappear. If the effort is continued long enough, pain may be produced.

To break the habit of staring:

(1) Shift consciously from one part to another of all objects regarded, and imagine that these objects move in a direction contrary to the movement of the eye. Do this with letters on the test card, with letters of fine print, if they can be seen, and with other objects.

(2) Close the eyes frequently for a moment or longer. When the strain is considerable, keep the eyes closed for several minutes and open them for a fraction of a second—flashing. When the stare is sufficient to keep the vision down to 2/200 or less, palm for a longer or shorter time; then look at the card for a moment. Later mere closing of the eyes may afford sufficient rest.

(3) Imagine that the white openings and margins of letters are whiter than the rest of the background. Do this with eyes closed and open alternately. It is an interesting fact that this practice prevents staring and improves the vision rapidly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

VOL. VI. JANUARY, 1922 No. 1

BE COMFORTABLE

By W. H. BATES, M. D.

IT can be stated without fear of successful contradiction that persons with perfect sight are always comfortable, not only as to their eyes, but as to the rest of the body. As soon as they cease to be so, it can be demonstrated, by examination with the retinoscope, that their sight has ceased to be perfect. They become nearsighted, farsighted, or astigmatic. The art of learning to use the eyes properly, is, in short, the art of learning to be comfortable. Even the memory of comfort improves the sight, while the memory of discomfort lowers it. Persons with imperfect sight often say and think that they are perfectly comfortable; but invariably such persons experience a feeling of relief when they close their eyes, demonstrating that they were not perfectly comfortable before, but had merely formed a habit of ignoring that discomfort. Persons with perfect sight, on the other hand, can immediately produce discomfort by producing imperfect sight, or even by remembering or imagining it, and persons with imperfect sight can produce a degree of discomfort that cannot be ignored by making their sight worse.

Copyright, 1922, by the Central Fixation Publishing Company

Note for #1; If you cannot see a letter, it is unclear; shifting on it from one blurry part to another, and looking for the contrary (opposite) movement improves the clarity of the letter.

Suggestions to Patients

By EMILY C. LIERMAN

(1) Palm in the morning while in bed.
(2) Take sun treatment for twenty minutes or longer every day.
(3) Mentally or physically, keep up that pendulum-like motion.
(4) After sitting in the sun, hold the small card and flash the white spaces.
(5) What you do not see immediately, do not worry about.
(6) While practicing with the Seven Truths of Normal Sight, always move the card slowly from side to side as you hold it six or eight inches from your eyes.
(7) To induce sleep when suffering from headache or nervous strain, close your eyes, remember the small F or T of the ten line of the test card and imagine it is moving slightly, about one-quarter of an inch, either up and down or to the left and right.
(8) There is a right way and a wrong way to blink the eyes while practicing. Children like to hold up their two hands about ten or twelve inches apart, looking first at one hand and then at the other. In this way one blinks when looking at the right hand and again when looking at the left hand. The head should turn in the same direction with the eyes.
(9) Near-sighted patients sometimes get along faster in the cure of their eyes by using two similar test cards at the same time while practicing. One card is held in the hand while the other is five or ten feet away. The patient looks at a letter up close and imagines he sees the same letter on the distant card. Then the patient closes his eyes and imagines that letter perfectly. Having seen it perfectly up close, he becomes able by practice to see it just as well on the distant card.

A Case Report

(Report of a man, 63 years old, who has worn glasses for a great many years. He improved his own vision merely by following directions. Others can do the same.)

I WILL be 63 years old in July and have not worn lenses since reading "Perfect Sight Without Glasses"; it will be two years the latter part of next July.

I have had monocular vision all my life, congenital convergent squint of left eye producing what has always been called "partial blindness from disuse." I could always see parts of everything but nothing distinctly; enough to get around if I closed my good eye, but could never see to read any printed matter with it.

At first I could not see the big "C" at any distance with the left eye. Now I can see its whole outline at about six inches and all of the letters on line ten at three or four feet.

In scanning even fine print I can now discern lines and spaces and almost distinguish the letters by holding it close up.

I should add that I have not been at all diligent nor faithful in using Dr. Bates' methods and am surprised at the results obtained by me in spite of that fact. With more devotion I am sure I will get better results.

One patient, a woman of 25 or 30, had worn glasses seventeen years. She was myopic with astigmatism, seeing about half the distance with the left eye as with the right. She had frequent headaches, could not go to the "movies" without great distress. She spent $300 or more on glasses, had no comfort with them and could not see well with or without them.

She was induced to buy Dr. Bates' book last March. She laid aside her glasses and began to work according to the method, wholly by herself, with most satisfactory results.

Very gratefully yours,
Fred W. Morris, D.O.,
Ridgewood, N. J.

How to Use the Snellen Test Card
FOR THE
Prevention and Cure of Imperfect Sight in Children

The Snellen Test Card is placed permanently upon the wall of the classroom, and every day the children silently read the smallest letters they can see from their seats with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. This takes no appreciable amount of time, and is sufficient to improve the sight of all children in one week and to cure all errors of refraction after some months, a year, or longer.

Children with markedly defective vision should be encouraged to read the card more frequently.

Records may be kept as follows:

John Smith, 10, Sept. 15, 1918.
R. V. (vision of the right eye) 20/40.
L. V. (vision of the left eye) 20/20.

John Smith, 11, Jan. 1, 1919.
R. V. 20/30.
L. V. 20/15.

The numerator of the fraction indicates the distance of the test card from the pupil; the denominator denotes the line read, as designated by the figures printed above the middle of each line of the Snellen Test Card.

A certain amount of supervision is absolutely necessary. At least once a year some one who understands the method should visit each classroom for the purpose of answering questions, encouraging the teachers to continue the use of the method, and making a report to the proper authorities.

It is not necessary that either the inspector, the teachers, or the children, should understand anything about the physiology of the eye.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. 1 AUGUST, 1919 No. 2

A HOUSE BUILT ON SAND

That the results of the present method of treating defects of vision are far from satisfactory is something which no one would attempt to deny. It is well known that many patients wander from one specalist to another, seeking vainly for relief, while others give up in despair and either bear their visual ills as best they may without assistance, or else resort to Christian Science, mental science, osteopathy, physical culture, or some of the other healing cults to which the incompetence of orthodox medicine has given birth. The specialists themselves, having daily to handle each other's failures, are scarcely better satisfied. Privately they criticize each other with great asperity and freedom, and publicly they indulge in much speculation as to the underlying causes of this deplorable state of affairs.

At the recent meeting of the Ophthalmological Section of the American Medical Association, Dr. E. J. Gardiner, of Chicago, in a paper on *The Present Status of Refraction Work*,[1] finds that ignorance is responsible for the largest quota of failure to get satisfactory results from what he calls the "rich heritage" of ophthalmic science, but that a considerable percentage must be attributed to other causes. Among these causes he enumerates a too great dependence on measuring devices, the delegation of refraction work to assistants, and the tendency to eliminate cycloplegics, in

[1] For reports of all the papers quoted, see Jour. Am. Med. Assn, June 21, 1919.

deference to the prejudices of patients who have a natural objection to being incapacitated by "drops."

On the same occasion, Dr. Samuel Theobald, of Johns Hopkins University, noted a tendency to "minimize the importance of muscular anomalies" as an important cause of many failures to give relief to eye patients. Among cases that have come into his hands after glasses had been prescribed by other ophthalmologists he has often found that "though great pains had been taken to correct even minor faults of refraction, grave muscular errors had been entirely overlooked." From this fact and from the small number of latent muscular defects noted in the hospital reports which he has examined, the conclusion seems to him inevitable that such faults are in large measure ignored.

Dr. Walter Pyle, of Philadelphia, laid stress on "necessary but often neglected refinements in examination of ocular refraction." "Long practice, infinite care and attention to finer details," he said, "are imperative requisites, since a slight fault in the correction of a refractive error aggravates rather than relieves the accompanying asthenopic symptoms." This care, he says, must be exercised not only by the oculist but by the optician, and to the end that the latter may be inspired to do his part, he suggests that the oculist provide himself with the means for keeping tabs on him in the form of a mechanical-lens measure, axis finder and centering machine.

Dr. Charles Emerson, of the Indiana University School of Medicine, suggested a closer co-operation between the ophthalmologist and the physician, as there were many patients who could not be helped by the ophthalmologist alone.

The fitting of glasses by opticians is usually condemned without qualification, but in the discussion which followed these papers, Dr. Dunbar Roy, of Atlanta, said that the optician, just because he does not use cycloplegics, frequently fits patients with comfortable glasses where the ophthalmologist has failed. When a patient needs glasses, said Dr. Roy, he needs them when his eyes are in their natural or normal condition and not when the muscle of accommodation is partially paralyzed. Even the heavy frames used in the adjustment of trial lenses were not forgotten in the search for possible causes of failure, Dr. Roy

believing that the patient is often so annoyed by these contrivances that he does not know which is causing him the most discomfort, the frames or the glasses.

Nowhere in the whole discussion was there any suggestion that this great mass of acknowledged failure could possibly be due to any defect in fundamental principles. These are a "rich heritage," the usefulness of which is not to be questioned. If they do not produce satisfactory results, it must be due to their faulty application, and it is taken for granted that there are a select few who understand and are willing to take the trouble to use them properly.

The simple fact, however, is that the fitting of glasses can never be satisfactory. The refraction of the eye is continually changing.[1] Myopia, hypermetropia and astigmatism come and go, diminish and increase, and the same adjustment of glasses cannot suit the affected eyes at all times. One may be able, in many cases, to make the patient comfortable, to improve his sight, or to relieve nervous symptoms; but there will always be a considerable number of persons who get little or no help from glasses, while practically everyone who wears them is more or less dissatisfied. The optician may succeed in making what is considered to be a satisfactory adjustment, and the most eminent ophthalmologist may fail. I personally know of one specialist, a man of international reputation, who fitted a patient sixty times with glasses without affording him the slightest relief.

And even when the glasses do what is expected of them they do very little. Considering the nature of the superstructure built on the foundation of Donders, and the excellent work being done by leading men, Dr. Gardiner thinks the present status of refraction work might be deemed eminently satisfactory if it were not for the great amount of bad and careless work being done; but I do not consider it satisfactory when all we can do for people with imperfect sight is to give them eye crutches that do not even check the progress of the trouble, when the only help we can offer to the millions of myopic and hypermetropic and

[1] Bates: The Imperfect Sight of the Normal Eye, N. Y. Med. Jour., Sept. 6, 1917.

astigmatic and squinting children in our schools is to put spectacles on them. If this is the best that ophthalmology can do after building for three-quarters of a century upon the foundation of Donders, is it not time that we began to examine that foundation of which Dr. Gardiner boasts that "not one stone has been removed"? Instead of seeking the cause of our failure to accomplish even the little we claim to be able to do in the ignorance and carelessness of the average practitioner, great as that ignorance and carelessness often are; in the neglect of cycloplegics and the refinements of lens adjustment; in the failure to detect latent muscular anomalies; in the absence of co-operation between specialist and general practitioner: would it not be wiser to examine the foundation of our superstructure and see whether it is of stone or of sand?

THE PREVENTION OF MYOPIA

Methods That Failed

The publication in 1867 by Professor Hermann Cohn of Breslau of a study of the eyes of ten thousand school children first called general attention to the fact that while myopia is seldom found in the pre-school age, the defect increases steadily both in percentage of cases and in degree during the educational period. Professor Cohn's investigations were repeated in all the advanced countries, and his observations, with some difference in percentages, were everywhere confirmed. The conditions were unanimously attributed to the excessive use of the eyes for near work, and as it was impossible to abandon the educational system, attempts were made to minimize the supposed evil effects of the reading, writing and other near work which it demanded. Careful and detailed rules were laid down by various authorities as to the size of type to be used in school books, the length of the lines, their distance apart, the distance at which the book should be held, the amount and arrangement of the light, the construction of the desks, the length of time the eyes might be used without a change of focus, etc. Face rests were even devised to hold the eyes at the prescribed distance from the desk and to prevent stooping, which was supposed to cause congestion of the

eyeball and thus to encourage elongation. The Germans, with characteristic thoroughness, actually used these instruments of torture, Cohn never allowing his children to write without one, "even at the best possible desk."[1]

The results of these preventive measures were disappointing. Some observers reported a slight decrease in the percentage of myopia in schools in which the prescribed reforms had been made; but on the whole, as Risley has observed in his discussion of the subject in Norris and Oliver's *System of Diseases of the Eye*, "the injurious effects of the educational process were not noticeably arrested."

"It is a significant, though discouraging fact," he continues, "that the increase, as found by Cohn, both in the percentage and in the degree of myopia, had taken place in those schools where he had especially exerted himself to secure the introduction of hygienic reforms, and the same is true of the observations of Just, who had examined the eyes of twelve hundred and twenty-nine of the pupils of the two High Schools of Zittau, in both of which the hygienic conditions were all that could be desired. He found, nevertheless, that the excellent arrangements had not in any degree lessened the percentage of increase in myopia. It became necessary, therefore, to look beyond faulty hygienic environments for the cause of the pathological states represented by myopia."[2]

With the passage of time further evidence to the same effect has steadily accumulated. In an investigation in London, for instance, in which the schools were carefully selected to reveal any difference that might arise from the various influences, hygienic, social and racial, to which the children were subjected, the proportion of myopia in the best lighted and ventilated school of the group was actually found to be higher than in the one where these conditions were worst.[3] It has also been found that there is just as much myopia in schools where little near work is done as in those in which the demands upon the accommodative power of the eye are greater, while in any case it is only a minority of the children in any school who become myopic, although all may be exposed to practically the same eye conditions.

[1] The Hygiene of the Eye in Schools, English translation, edited by Turnbull, p. 107.
[2] System of Diseases of the Eye, 1897, Vol. II, p. 361.
[3] Brit. Med. Jour., June 18, 1898.

TREATMENT. One patient, forty years of age, had been blind from birth. The corneas of both eyes were totally opaque, so that it was impossible to see the color of the iris. The patient was helpless on the street and required someone to lead him. Central fixation, the use of his memory and imagination, and other methods for the relief of eyestrain were practiced. The sun treatment was especially beneficial. The patient was taught to expose his closed eyelids to the sun for many hours daily.

At the end of a few months' treatment, he became able to recognize people on the street. He was taught the alphabet and the names of the figures. When his knowledge of the letters became perfect, he was able to read the Snellen test card, 20/20. He was also able to read fine print without glasses. After thirty-five years, his friends reported that his eyes were still normal.

Another case was that of a woman, aged seventy-five, who had to be led into the office. She had suffered from inflammation of the cornea of both eyes for many years, and had frequent attacks of ulcers. From time to time, these ulcers would heal, but they always left a scar.

When the patient was first seen, a scar tissue involved the whole cornea, so that one could not distinguish the colored part of the eye. I believe that eyestrain was the only cause of the trouble, because the sun treatment, palming and swinging, brought about an improvement so that the cornea became perfectly clear, and the vision of the patient for distant and near objects was normal.

The Blindness of Squint or Amblyopia Ex Anopsia

In cases of squint, the vision of the eye which turns either in or out is variable. In many cases, the squinting eye may have normal vision, but in the majority of cases, the vision may be very much lowered, and in rare cases,

the squinting eye may be totally blind with no perception of light.

CAUSE. There have been many theories proposed to account for the blindness of squint. I have found, however, that the cause of the blindness is due to eyestrain.

TREATMENT. The vision of these cases is benefited by relaxation methods—palming, swinging, and the use of the memory or the imagination. A letter may be imagined perfectly or imperfectly. When imagined imperfectly, the vision is always lowered. When imagined perfectly, with the eyes open as well as with the eyes closed, the vision is always improved. By remembering or imagining a letter, with the eyes closed for half a minute or longer, one becomes able to imagine a letter quite perfectly with the eyes open for a few seconds. Repeat.

CASE HISTORY. In one case, a woman, about thirty years of age, was totally blind in the right eye which turned in, although the eye itself was apparently normal. That is to say, there were no opacities in any part of the eye, and the retina and optic nerve were normal.

With both eyes open, the vision was 15/20. By practice, with the aid of her memory and imagination, the vision, with both eyes, soon became normal without glasses, 15/10. Coincident with the improvement of the vision of both eyes together, which meant an improvement in the vision of the left eye, the patient gradually became able to distinguish light in the right or blind eye. In less than two weeks, after daily treatment, the vision of the right eye became normal and the eyes straight.

It seems curious that so many articles have been published on amblyopia (dim-sightedness) ex-anopsia (from lack of education or use of eye) without going further and studying the results of the opposite of ex-anopsia,—relaxation methods of treatment.

SAVED FROM BLINDNESS

By Patricia Palmer

It is very hard for an active young girl to suddenly learn that in a short time she may lose her eyesight. I had always felt a great deal of pity for blind people, but I never stopped to realize how many beautiful things they missed until I knew that I was going blind myself. I only wore glasses for three years, but in that short time I developed a very bad case of progressive myopia. In the summer of 1918 my sight became so poor that I had to stop reading altogether and even a moderately bright day hurt my eyes so much that I kept them bandaged a great part of the time. Finally I had to put on a dark Krux lens, and the goggle-like glasses that I wore shut out all light. In the fall I started school, but as I could not see to read I was working under great difficulties. Then, through an article published some months before in the *Scientific American,* we learned of Dr. Bates's work and it seemed the last possible hope. I declared that there was no use in taking the trip to New York, because I knew he could do nothing for me, but in the end I went.

The first time I looked at the test card I could not see the big "C" until I stood within four feet of it, but in two hours I was able to flash all the letters of the third line and part of the fourth at ten feet. In four weeks I had 10/10 vision and my hearing, which had been bad, was normal.

Some weeks after I returned home a friend, who was calling, complained of a bad headache. I persuaded him to take off his glasses and showed him how to palm and swing the letters on the chart. A short time later he discovered, to his surprise, that his headache was entirely gone.

This incident made me realize that if I showed others what Dr. Bates had shown me I could relieve, if not cure, their troubles. The next person that I worked with was a little girl with progressive myopia which had not become very serious. She worked very conscientiously, and about a month after we started, when she visited Dr. Bates, her sight was nearly perfect.

I have helped a number of people, some successfully, others not so successfully. One of my most interesting cases was a chauffeur who thought that he was unusually farsighted, but who could not see to read the paper. When I tested his eyes I found that he had only 10/20 vision. In a short time, however, he attained normal sight by palming and swinging the letters. I then told him to close his eyes and count ten, then open them for a fraction of a second. I held a book in front of him and in a short time, by closing his eyes and then glancing at it, he read parts of it. He practices on signboards, automobile licenses, or anything that he sees, and now he reads the entire paper every evening. He has noticed, too, that he is not blinded by bright lights at night as he used to be.

As to the value of swinging the little black period I am very decided. I find it my best friend, especially in a test. One time in a French examination, in the excitement of the moment, I could not think of a certain word which I knew well enough and which was very important to me. I closed my eyes and palmed for a second and remembered the period. In a flash my self-control returned to me and with it the word. I have tried this several times since, usually with success.

I often wonder now how I could possibly have managed without my eyes, even with glasses. It is such a joy to be able to read from morning to night if I want to.

MAKE YOUR SIGHT WORSE

Strange as it may seem there is no better way of improving the sight than by making it worse. To see things worse when one is already seeing them badly requires mental control of a degree greater than that required to improve the sight. The importance of these facts is very great. When patients become able to lower their vision by conscious staring, they become better able to avoid unconscious staring. When they demonstrate by increasing their eccentric fixation that trying to see objects not regarded lowers the vision, they may stop trying to do the same thing unconsciously.

What is true of the sight is also true of the imagination and memory. If one's memory and imagination are imperfect, they can be improved by consciously making them worse than they are. Persons with imperfect sight never remember or imagine the letters on the test card as perfectly black and distinct, but to imagine them as grey and cloudy is very difficult, or even impossible, and when a patient has done it, or tried to do it, he may become able to avoid the unconscious strain which has prevented him from forming mental pictures as black and distinct as the reality.

To make imperfect sight worse is always more difficult than to lower normal vision. In other words, to make a letter which already appears grey and indistinct noticeably more cloudy is harder than to blur a letter seen distinctly. To make an imperfect mental picture worse is harder than to blur a perfect one. Both practices require much effort, much hard disagreeable work; but they always, when successful, improve the memory, imagination and vision.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1920, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. III **SEPTEMBER, 1920** **No. 3**

EXPERIENCES WITH CENTRAL FIXATION

By M. H. STUART, M.D.

Moultrie, Ga.

We are greatly indebted to Dr. Stuart for sending us this remarkable story of his own cure and that of his patients, all of which was accomplished without personal assistance by means of the information presented in this magazine.

Some sixteen years ago, when working as a stenographer, I developed indigestion and became extremely nervous, one of my symptoms being a tension in the spinal cord between the shoulder blades which was extremely uncomfortable. In the late afternoon and evening I would become so nervous that I could scarcely sit still, and I have walked five miles into the country and back again to get relief. I tried dieting for the indigestion, but after two months failed to get any relief. A medical student then suggested that the trouble might be due to my eyes. I went to an oculist, who fitted me with glasses, and all my troubles ceased.

The glasses given to me were convex 0.25, axis 90. A few years later, when I was in New York doing post-graduate work at the Polyclinic, they were changed to concave 0.25, axis 180, my refraction having changed from hypermetropia to myopia. In succeeding years the myopic astigmatism increased to concave 0.75, axis 180, and finally, after I had worn glasses for some fourteen years, to concave 1.00, axis 180. The last correction I had worn for about two years when I discarded glasses for good.

Slight as my error of refraction was, I was not able to leave off my glasses for more than an hour or two without suffering from nervousness and the feeling of tenseness in the spinal cord alluded to above. At other times I was perfectly comfortable except for the last year or two, during which I had so much to do that I suffered at times from the old nervous trouble. I had no pain in my head or eyes, but the trouble in my back was so bad last fall that I had to have the services of a masseur in order to do my work.

Five years ago I first read about Dr. Bates' experiments upon the eye muscles of animals. While interested I was not prepared to abandon the accepted teachings on the subject, and I waited to hear more. Recently I read, in the May (1920) number of BETTER EYESIGHT, Dr. Arnau's story of how his headaches were cured, and I was so impressed by it that I determined to try the relaxation method upon myself. I palmed for five minutes and then read the card three times with each eye as far as I could without effort. I did this six times a day for five days, and at the end of this time I had gained a very decided degree of relaxation. I had, of course, discarded glasses, and, although this caused me a little discomfort at first, I was able, about a week later, to perform, without them, three tonsilectomies and one operation for cataract, and to remove two blind eyes. At the same time I went through my daily routine of treating ten to thirty patients, examining eyes, ears, noses and throats, much of which work requires extra good vision. At noon I lay down to rest as usual and read the Atlanta paper. At night I read the Moultrie daily paper and anything else that I wanted to.

After the first five days of systematic relaxation I have never done anything in a routine way for myself, but if I feel nervous, or my eyes feel drawn, I swing twenty times and palm. In this way I am always able to get relief. Another method of gaining relaxation that I have resorted to is to look at an imaginary period in any dark, distant object. In this pine-woods district there are thousands of stumps, many of which have been burned and blackened. The third day after I discarded my glasses I had to drive about twenty-eight miles, and whenever my eyes felt drawn I would look in an easy relaxed way at a small point on one of these stumps and always got relaxation.

Nearly every afternoon at half past four I go out for a game of golf, and often I palm before going, as I find it gives me better control of my nervous system, and enables me to play a more consistent game.

I was so pleased with the results of the new treatment in my own case that I have since taught central fixation to about forty of my patients, and in only about two did I fail to improve the vision at the first sitting.

The following are some of my more notable cases.

Mr. S, an automobile mechanic, had been mentally deranged for two weeks, following an atttack of flu, after which he gradually became rational, only to find that he saw double and his vision was imperfect in each eye. At the first examination he read with his right 20/120, and with the left 20/60. I suggested that he palm at least six times a day for five minutes, and on the second day

he was greatly improved, reading with the right eye 20/80, left 20/40. On the third day he read with the right eye 20/40, left 20/30, an increase of vision in the right eye of 200 per cent, and in the left of 100 per cent. He is now at work, and when, occasionally, he has to lay off, it is not on account of any trouble with his eyes, but because of weakness in his knees.

A year ago a Mr. B consulted me about the sight of his right eye, the left having been blind for years. His vision was 10/40, and could not be improved by any lens. I advised him to have the left eye removed, since it was a menace to the other eye. He would not consent to this and I did not see him again until May 5, of this year, when he came to my office practically blind in his right eye from sympathetic opthalmia. At one foot he could only count fingers. I advised the immediate removal of the blind eye and of a few teeth that had pus about them; but I could not promise that his vision would be saved. That afternoon I removed the eye, and the following day I was gratified to find that he could count fingers at three feet. I sent him home with some large letters to use for the practice of central fixation, and by the fifteenth he was able to count fingers at five feet. I then told him how to practice the universal swing, and on the twenty-second he could count fingers at seven feet. On the twenty-ninth he could read the small type on the 20 line of the test card at four inches, whereas he had been entirely unable to see them previously. He states that he can now see the small chickens running about near his feet, and can see small cotton plants seven feet away. I am confident that in a year, or some such matter, he will have sufficient vision to attend to the necessary work of his farm.

I have treated three cases of squint, all of them with success. One of them, Delia S, aged twelve, came to me on May 15, with her right eye turned in to such a degree that the cornea was partly hidden. The sight of this eye was so imperfect that at three feet she could only count fingers. With her left eye she could read 20/30. She was told to palm, and when she returned on May 24 she was able, with the squinting eye, to count fingers at six feet, twice as far as at her first visit, and the eye was straighter. On June 5 she came again, and counted fingers at eight feet, an increase of vision since the beginning of 700 per cent. On July 3, while I was writing this report, she came in, and I found that her right eye had improved to 20/60, one third of normal, while her left had become entirely normal, 20/20. Her right eye was entirely straight at times, and I feel sure that in a few months this condition will have become permanent.

Another case of squint was that of a young girl of fourteen with rather large, pretty blue eyes, one of which, the right, was slightly crossed inwardly. Her sight was very imperfect—half normal in the right eye and one-third normal in the left—while, like most cross-eyed people, she was troubled with double vision. I asked her to palm at least six times a day, and she came back with her eyes straighter and able to read 20/30 with both. The next week showed normal vision, the eyes being at times perfectly straight.

I was particularly pleased to be able to relieve these little girls of a disfigurement which means so much more to them than it would mean to a boy, and I was much interested to note how much prettier their eyes were, apart from the disappearance of the squint, after a few treatments. They were wide open, softer-looking, in short, relaxed.

REST

All methods of curing errors of refraction are simply different ways of obtaining rest.

Different persons do this in different ways. Some patients are able to rest their eyes simply by closing them, and complete cures have been obtained by this means, the closing of the eyes for a longer or shorter period being alternated with looking at the test card for a moment. In other cases patients have strained more when their eyes were shut than when they were open. Some can rest their eyes when all light is excluded from them by covering with the palms of the hands; others cannot, and have to be helped by other means before they can palm. Some become able at once to remember or imagine that the letters they wish to see are perfectly black, and with the accompanying relaxation their vision immediately becomes normal. Others become able to do this only after a considerable time. Shifting is a very simple method of relieving strain, and most patients soon become able to shift from one letter to another, or from one side of a letter to another in such a way that these forms seem to move in a direction opposite to the movement of the eye. A few are unable to do this, but can do it with a mental picture of a letter, after which they become able to do it visually.

Patients who do not succeed with any particular method of obtaining rest for their eyes should abandon it and try something else. The cause of the failure is strain, and it does no good to go on straining.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1920, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. II **APRIL, 1920** **No. 4**

HOW I HELPED OTHERS

By VICTORIA COOLIDGE

When I had become able to read without glasses, and my headaches had become less and less frequent, and less severe each time, I was so enthusiastic over my experience that I was anxious to help others. My brother was my first patient. He was so much interested in what had been done for me that he wanted to try it himself; but I never dreamed of being able to help him, because his eyes were almost as bad as my own had been, his glasses being: right eye convex 3.25 D.S.; left eye, convex 3.75 D.S. combined with 0.50 D.C., 180 degrees. However, I knew the treatment could do no harm, so I decided that I would try to show him as nearly as I could what Dr. Bates had done for me. Imagine my surprise, then, when I found that he, too, by holding the fine print six inches from his eyes and looking alternately at the top and bottom of the letters, became able to read it just as I had become able to do so. He proved to be a model pupil as soon as he had demonstrated to his own satisfaction that he must leave off his glasses all the time if he wanted to make any appreciable progress. He has now done without them for about a year, and has made remarkable prog-

ress in that time, the secret of his success being a great desire to be cured, an intelligent grasp of the idea of central fixation, and perseverance in practicing central fixation at every possible opportunity.

The next person I was able to help was a friend who, while visiting me, happened to notice the Snellen test card hanging on the wall. She asked me what I was doing with it, and I explained, adding that she was very fortunate in having normal vision. "I thought I had," she said, "but I have had so many headaches that I consulted an eye specialist the other day and he gave me glasses." She was so displeased to think she had to wear them, and had found it so difficult to get used to seeing with them, that I asked her if she would like to try Dr. Bates' treatment without glasses. She said that she would jump at the chance. I told her to read the card every day at ten, fifteen, and twenty feet, and to palm whenever she had a headache. That was in August. On December 19 she telephoned that she had practiced reading the card every day, that she had had no trouble with headaches, and that she was reading 20/10 easily with the better eye, and fairly well with the other. Shortly after she began the treatment herself, she was able to improve the vision of a child nine years old from 20/50 to 20/20.

It has been many times pointed out in this magazine that children under twelve years of age who have never worn glasses are easily cured; and so for the past month I have been trying to see what I could do for such children, and for some who were older—including two who had worn glasses, one some time previously and the other up to the time I began to treat her. I have worked with six and they have all improved. One girl, fifteen, who had worn glasses a few years ago for imperfect sight in one eye, but who had discarded them, improved in a half hour from 20/70 to 20/50, by alternating palming, or sometimes just closing her eyes, and then reading the Snellen test card. This improvement was permanent.

Another girl, sixteen, had worn glasses for a year, chiefly for headache, she said, although her vision in both eyes was but 20/200. As she could read without her glasses without much difficulty, she was only too glad to take them off, as most girls of that age are, but she was afraid of the headaches. I asked her to try it, and she has done so for about three weeks, during which time her vision improved to 20/70 and she had no headaches.

The following is the record of four little girls who have improved by reading the Snellen test card daily, and palming:

Name	Age	Vision Sept., 1919 Phys. Rec. Card	Dec. 11	Dec. 31
Catherine	10	R. 20/50	20/40	20/40
		L. 20/50	20/40	20/40
Blanche	10	R. 4/50	6/40	6/30
		L. 4/50	6/40	6/30
Vinnie	9	R. 20/50	20/40	
		L. 20/40	20/30	absent
Sylvia	10	R. 20/40	20/15	20/10
		L. 20/40	20/15	20/10

Catherine's vision afterwards (January 22) improved to 20/20. The case of Sylvia was so interesting that it will be treated in more detail next month.

CRW - Dec. 20, 1922

Better Eyesight

A Monthly Magazine Devoted to the Prevention and Cure of Imperfect Sight without Glasses

Published by the Central Fixation Company, 300 Madison Ave., New York, as the official organ of the BETTER EYESIGHT LEAGUE, a national organization to relieve the sufferings and discomfort of those afflicted with imperfect eyesight, to disseminate the knowledge of the scientific cure and prevention of imperfect sight without the use of glasses, and to promote further research and investigation into the causes for imperfect eyesight and its improvement without the use of artificial lenses.

W. H. BATES, M. D., Editor

VOL. VII. JULY, 1922 No. 1

THE STORY OF VIOLET

By W. H. Bates, M. D.

Just what, in simple words, is Central Fixation? If you will read this story of a ten-year-old girl who discovered it for herself you will know, not in terms of theory or in scientific phrases, but in practical simplicity.

SOME years ago a young girl, aged 10, was brought to me for the cure of imperfect sight and squint. She was wearing quite strong glasses for relief.

The right or squinting eye, even with her strong glasses, had very poor vision. The best she could see with this eye with or without glasses was counting fingers at about three feet. Looking straight ahead of her with this squinting eye, with the other eye covered, everything was visible and, she said, perfectly dark, and what she did see at any time with this eye was off to one side. She was unable to read with this eye with or without her glasses.

With her left eye her vision was improved by glasses so that she had about one-quarter of normal vision and could read large print with more or less difficulty for short periods of time. She usually had a headache every day and at times great pain in one or both eyes.

Reading or studying her lessons was a punishment. Unlike other children she had no pleasure in reading story books. The trouble with her eyes interferred with her play. She spent most of her time sitting alone with no desire to talk and kept her eyes closed a good deal of the time. Without her glasses she could not read at all ordinary print.

The case to me was very interesting because of the results obtained in a short time, three weeks. When the mother asked me how long it would take, I believed and told her that if the girl got any improvement in three months she would be very fortunate. In fact she was practically cured in a week but I was so fearful of a relapse I had her come a few weeks longer to be sure she retained what she had gained.

Glasses Off

The first thing I had her do was to discard her glasses altogether. With both eyes open her vision was 10/200. When she was able to see the large letter on the card clearly or well enough to tell what the letter was, I asked her if she saw it all alike. She said "No." She told me that she noticed that when she looked at the top of the letter she saw it best and the bottom worse. When she looked at the bottom of the letter she saw the bottom of the letter best and the top worse.

"But," I said, "The top is just as black as the bottom and one side is just as black as the other side. The letter is perfectly black in all parts."

"Yes," she said, "but I do not see it that way."

I told her to try it that way. She said at once the letter blurred so that she could not tell it. When I brought the letter up close, at three feet away she saw it more distinctly than at ten feet.

"Now," I said to her, "when you try to see the letter all alike what happens?"

She answered, "It blurs and if I try hard enough I cannot even tell what the letter is."

I said to her, "You know the letter is perfectly black and when you see one part best you are seeing something that is not so, aren't you?"

"Yes," she answered.

"Now when you see something that is not so you do not really see it— you only imagine it, don't you?"

She answered, "I do not see one part best, I only imagine it."

Then I pointed to the second line, first letter, "Can you imagine the top of this letter is blacker than the bottom? Make believe it is," I told her.

"Oh," she said, "I can make believe it is, I can imagine the top best."

"Can you imagine the bottom best if you want to?"

"Yes I can imagine the bottom best and the top worse."

"What letter is it?" she answered: "A letter *R*."

"Is the letter *R* as black as the big *C*?"

"No," she answered, "it is quite gray and all blurred on the edges."

"You know it isn't gray don't you?"

"Yes, I know it isn't gray but that is the way I see it."

"Isn't that an illusion? when you see gray you are seeing something that isn't true, aren't you?"

"Yes, when I see it gray I am seeing something that isn't true."

"Now suppose you make believe that the letter *R* is just as black as the big *C*, which it really is. Can you do that?"

"I can make believe it is, I can imagine it is, but I have to imagine one part at a time."

"All right," I said, "I can forgive you for that. Keep on imagining one part is blacker than the rest," and then she screamed with delight.

"Oh goody, the whole card is getting better and I can see a thousand times more then I could before."

Better Vision Quickly

In her eagerness to prove that her sight was better, almost breathlessly, she read several lines.

I said to her, "Why do you stop?"

She answered, "They all turn gray."

"Oh," I said, "Nonsense, they didn't all turn gray. You only made believe they did. Suppose you make believe they are black all the time, not some times gray, and other times black, because they are not. You know those letters are continuously black."

"Yes I know it but I do not always imagine or make believe they are."

"Can you make believe they are?"

"Oh, yes I can and can read more of them," and this she did and apologized, saying that she could not read them or imagine them perfectly black unless she made believe she saw a part of the letter best.

I was very much impressed with the fact that this child had discovered for herself what I call Central Fixation or the ability to see a part of a letter better than the rest of it. She found, without any suggestion on my part, that she could not read any of the letters with maximum vision unless she did see one part best. When she came to the smaller letters she hesitated and failed to see them.

"What is the trouble?" I asked.

"Oh," she said, "They are so small it seems as though I ought at least to see a small letter all alike and tell what it is."

Then I called her attention to the fact that she could not tell any of those small letters when she tried to imagine the letters all alike. I brought the card closer and encouraged her to imagine one part best of the smaller letters. At a nearer point than ten feet she was able to imagine even the letters on the bottom line, one part best, and distinguish them. She was able to demonstrate that when she saw the small letters all alike that her sight was not so good. When she looked at the card at ten feet she became able, by alternating with looking at the card nearer, to see the small letters, one part best, as well as she could at a nearer point.

Real Practice

She practiced with the card at home and did what very few of my patients are able to do, she improved her sight practicing by herself. In a few days her vision with both eyes together became normal. Then I had her cover the good eye, the left, and practice in the same way with the squinting eye, which had such very poor sight. With her eyes closed she could imagine one part best of a large letter at ten feet continuously. By flashing the large letter with the squinting eye, alternately, her ability to see one part best improved, at first in flashes and later more continuously.

When she was at home her mother said the child was spending all her time with the card. She shortened the time of her meals in order to be busy with the Snellen Test Card for a longer time. She even brought the card to the table and practiced with it while she was eating. It was difficult to induce her to go to sleep because she wanted to practice more. She was up in the morning soon after daylight and practiced with her card while she was dressing.

She very soon had her reward, for in less than a week's time she had normal vision with each eye and the squint disappeared never to return.

It was very interesting how she improved her ability to read fine print at the near point. When I asked her, "Do you see those small letters of the diamond type one part best?" she answered "Yes."

"Do you see the period of the diamond type one part best?"

"Yes, but when I get started I can read it so fast that I do not have time to notice that I am seeing the letters one part best."

Higher Mental Efficiency

This child accomplished what I have never seen anybody else do. She could read the diamond type with each eye by central fixation so close to her eyes that the page touched her eye lashes. She could read signs further off than any person I ever knew.

With the wonderful improvement in her sight came an increased mental efficiency. Her memory was unusual. She could read perfectly a page of history and because she saw it perfectly she was able to remember it perfectly. As a consequence her scholarship became very good indeed. Formerly she was at the foot of her class, afterwards she was at the head. She astonished her teacher with the quickness of her perceptions, her ability to understand. Formerly when her sight was poor she was a very unhappy, depressed person, later she was full of life and action and seemed to enjoy life to the utmost.

One day she met one of my patients on the street. "How are you getting along?" she asked. The patient answered gloomily, "Not as well as I would like. How are you?"

"Oh, I am all right, I am cured and I am very glad and happy over it. How much do you practice and how often do you go to see Doctor?"

"Oh, I practice once in a while, half an hour or so a day when I think of it and I call on the Doctor about once a week."

Then Violet exclaimed, "Oh how foolish, that isn't the way I did it. I wanted to get well and I wanted to get well quick and I did just exactly what the Doctor told me to do and the more I practiced the more I improved. I found it was a good thing to do what he said, so I did it. When he told me to remember a period all day long I did it. He told me to do a whole lot of other things and some of them seemed hard, difficult, but when I found I could do them they seemed easier to do and I am glad of it."

When the patient told me of the meeting with Violet he asked me why she improved so much more than he had improved.

I asked him, "Did you follow my instructions as enthusiastically as Violet did? Was there any reason, any real reason why you could not do it?"

"No," he answered, "There was no reason why I should not have practiced as faithfully as Violet but my eyes are so bad that it is difficult for me to do the right thing although you repeatedly had me demonstarate that to do the wrong thing was a strain, an effort and required hard work and made me uncomfortable. When I did the right thing it was easier and I felt more comfortable."

This patient after his meeting and talk with Violet came to the office more frequently, practiced more continuously and made surprising progress. In a few weeks he went back to his former state of mind, and did not do so well. I have always thought if he could have had Violet with him most of the time or could have seen her daily he would have done much better. Most of my patients always do better when they have someone with perfect sight to encourage them by their example or advice.

THE MEMORY SWING

THE memory swing relieves strain and tension as well as does the long or the short swing which has been described at various times. It is done with the eyes closed while one imagines looking over first the right shoulder then over the left shoulder when the eyeballs may be seen through the closed eyelids to move from side to side. When done properly it is just as efficient as the swing which is practiced with the eyes open whether short or long. The memory swing can be shortened by remembering the swing of a small letter, a quarter of an inch or less when the eyes are closed. The memory swing has given relief in many cases of imperfect sight from myopia, astigmatism and inflammations of the outside of the eyeball as well as inflammations of the inside of the eyeball. One advantage is the fact that it can be done without attracting the attention or making one more or less conspicuous to others. It is much easier than the swing practiced with the eyes open and secures a greater amount of relaxation or rest than any other swing. It may be done wrong just as any swing may be done wrong. When done right one does not imagine things are moving necessarily. All that is important is to move the eyes from side to side as far as possible or as far as one can move them when the eyes are open.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1921, by the Central Fixation Publishing Company

Editor—W. H. BATES, M. D.
Publisher=CENTRAL FIXATION PUBLISHING COMPANY

Vol. VII. MARCH, 1923 No. 9

Rest

By W. H. BATES, M. D.

THE normal eye when it has normal sight is at REST. When the normal eye has imperfect sight it is not at rest. When the diseased eye is at rest it has normal sight. When the diseased eye is not at rest the sight is imperfect. There are no exceptions to these statements. In the treatment of imperfect sight without glasses it is very important that we should understand as clearly as possible what is meant by REST. The normal eye is at REST when the sight is normal or when the individual remembers or imagines normal sight. All persons with high degrees of nearsightedness have moments when the eye is normal and when the vision is normal but these moments are so short that there is not time enough to be always conscious of the normal vision.

Clarification for the Memory Swing; Do not force, or hold the eyes to the left, right. Imagining looking left and right is done *gently*. The eyes move easy, relaxed left and right under the closed eyelids as you imagine looking over the left and right shoulders. Allow the head to move with the eyes. Imagining seeing the swing of opposite movement (as is taught in this book) when looking left, right is optional.

WATCH YOUR STEP

WHEN you know what is the matter with you it is possible for you to correct it and bring about a cure. If you do not know what is wrong with you the cure of your imperfect sight is delayed. Some persons have been cured quickly when they were able to demonstrate that to see imperfectly required a tremendous effort, an effort which was very difficult. Some persons are cured in one visit and they readily demonstrate that imperfect sight or failure to see is difficult. Others require weeks and months to demonstrate the facts. Perfect sight is quick, comes easy and without any effort whatever. Imperfect sight is slow, difficult. One cannot consciously make the sight worse as readily as it can be done unconsciously. There is no danger in demonstrating the facts.

Look at a small letter on the Snellen test card which can be seen clearly at ten or twenty feet, a letter O for example. When the letter is seen quite perfectly it is usually seen without any apparent effort. However, by looking intently, staring at it and making an effort to improve it the letter blurs. It can always be demonstrated that the effort to see very soon blurs the letter. Now close the eyes and rest them for a part of a minute or longer and then glance at the letter again. It will usually be as clear as it was before. Again by straining, making an effort, the letter becomes blurred. One can readily demonstrate that to make the sight worse requires an effort, a strain.

Many obstinate cases have obtained a permanent cure only after learning how to make the sight worse consciously. In my book are published Seven Truths of Normal Sight. Prove the facts by demonstrating that the sight becomes imperfect when one or all of them is made imperfect by a strain.

PERFECT SIGHT

If you learn the fundamental principles of perfect sight and will consciously keep them in mind your defective vision will disappear. The following discoveries were made by Dr. Bates and his method is based on them. With it he has cured so-called incurable cases:

1. Many blind people are curable.
2. All errors of refraction are functional, therefore curable.
3. All defective vision is due to strain in some form.
4. Strain is relieved by relaxation.

You can demonstrate to your own satisfaction that strain lowers the vision. When you stare, you strain. Look fixedly at one object for five seconds or longer. What happens? The object blurs and finally disappears. Also, your eyes are made uncomfortable by this experiment. When you rest your eyes for a few moments the vision is improved and the discomfort relieved.

Have some one with perfect sight demonstrate the fundamental principles contained in Dr. Bates' book, "Perfect Sight Without Glasses." If the suggestions and instructions are carried out, and glasses discarded, it is possible to improve the vision without personally consulting a physician.

"Perfect Sight Without Glasses" will be sent C. O. D. on five days' approval. Price, $5.00.

Central Fixation Publishing Company
383 Madison Avenue, New York City

THOS. B. BROOKS, INC.
NEW YORK

CATARACT NUMBER

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. IX | FEBRUARY, 1925 | No. 8

The Baby Swing

Cataract
By W. H. Bates, M.D.

Stories from the Clinic
60: Two Cases of Cataract
By Emily C. Lierman

Strain
By Emily A. Meder

Clinic Reports from London

The Elephant and the Fairies
By George Guild

Report of the League Meeting
By Dorothy Maitland

Helpful Hints from Correspondents

Questions and Answers

$2.00 per year | 20 cents per copy | Back numbers 30 cents

Published by the CENTRAL FIXATION PUBLISHING COMPANY
383 MADISON AVENUE NEW YORK, N. Y

The Baby Swing

YOUNG babies suffer very much from eye-strain. The tension of the eye muscles is always associated with the tension of all the other muscles of the body. Their restlessness can be explained by this tension. I was talking with an Italian mother in the clinic one day about restless children, and asked her why it was that her baby was always so quiet and comfortable when she came to the clinic, while many other babies at the same time were very restless and unhappy.

"Oh," she said, "I love my baby. I like to hold her in my arms and rock her until she smiles."

"Yes, I know," I said, "but that mother over there is rocking her baby in her arms, and the child is screaming its head off."

"Yes," exclaimed the Italian mother, "but see how she rocks it."

Then I noticed that the other mother threw the child from side to side in a horizontal direction with a rapid, jerky, irregular motion, and the more she jerked the child from side to side, the more restless did it become.

"Now, doctor," said the Italian mother, "you watch me."

I did watch her. Instead of throwing the child rapidly, irregularly, intermittently from side to side, she handled her baby as though it had much value in her eyes, and moved her not in straight lines from side to side, but continuously in slow, short, easy curves. The Italian mother picked up the other mother's child, and soon quieted it by the same swing.

I learned something that day.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1921, by the Central Fixation Publishing Company

Editor, W. H. BATES, M. D.
Publisher, CENTRAL FIXATION PUBLISHING COMPANY

Vol. IX. FEBRUARY, 1925 No. 8

Cataract

By W. H. BATES, M.D.

CATARACT is a form of imperfect sight in which the lens of the eye becomes opaque. It usually begins after the age of fifty, and may progress in the course of a year or longer to complete blindness. In most cases perception of light can be demonstrated in all parts of the field. In many cases, cataract in one or both eyes is found at birth. There are also a smaller number of cataracts which appear after an injury to the eyes. Diabetes and other general diseases are believed to be a cause of cataract. As a rule cataract is progressive.

In 1895, a well-known ophthalmologist asked me, one of his assistants, to collect the histories of all cases of cataract which recovered without treatment. There were many such cases. It seemed to me that since recovery of cataract occurred without treatment, although the majority needed an operation for the removal of the lens before they were able to see, some form of treatment might help more of these cases. I sent some of my private patients to general practitioners who at that time by various methods did benefit these patients in quite a number of instances.

Not long afterwards I attended a meeting of the Ophthalmological Section of the American Medical Association, and listened to a paper on the treatment of cataract in which the writer declared that any doctor who claimed to cure cataract without an operation was a quack or something worse. I did not think he was

right, and gave a talk on my experience, which produced something of a sensation.

More than forty years ago, when I was a student in a medical college, one of the professors gave a lecture on the eye. He had a number of nucleated eyeballs from the cow. He demonstrated that when the eyeball was squeezed with the aid of his fingers, an opacity or cataract of the lens at once appeared. I could see this more than twenty feet away. When the squeeze was relieved, the lens at once became apparently perfectly clear. I have repeated this experiment on the eyes of other animals without failure.

One day I was studying the eye of a patient with partial cataract. While the patient was talking of various things of no special consequence, I could see through several openings in the cataract, areas of a red reflex, which was evidence that the lens was not completely opaque. I asked the patient how much she could see, and while she told me the letters on the Snellen test card that she could read, the opacity of the lens was incomplete. She then made an unsuccessful effort to remember some of the smaller letters, when much to my surprise, the whole lens became opaque. I repeated the observation as follows:

I asked her: "Can you remember that you saw the big C?"

"Yes," she answered, and then at once the lens cleared in part, and I could see the red reflex through the open spaces.

Then I asked her: "Can you remember having seen any of the smaller letters on the bottom line?" I could see that she was making a considerable effort when the lens became completely opaque. I was so interested that I had a number of friends of mine repeat the experiment, and they were just as much astonished as I was when they obtained the same result.

So many patients are depressed, or become very unhappy, when they learn that they have cataract. The prospect of an operation, with its dangers and uncertainties, is too often a punishment. When an elderly patient with loss of vision is brought to me for treatment, the friends or relatives usually request me not to tell him that he may have cataract. For many years I followed this practice, gave the patient glasses, and deceived him as well as I knew how. I felt a great responsibility which I was always anxious to be rid of. I was ashamed of my cowardice. It was a great relief to have such patients consult some other physician. At the present time this has all been changed. I welcome cataract patients now, and rejoice in the fact that they have cataract because I am always able to improve the vision at the first visit, and ultimately cure them if they continue some months, or longer, under my supervision. Cataract is more readily cured than diseases of the optic nerve or retina. I believe that I am justified in telling the patients that the cause of the imperfect sight is due to cataract, because when they know what is wrong with them, they are more likely to continue to practice methods of treatment which are helpful.

The vision of every case of cataract always improves after palming, when the patient learns how to do it right. I have seen many serious cases obtain normal vision with the disappearance of the cataract, by practicing the palming and nothing else.

It was a shock to me to see a case of traumatic cataract recover with the aid of palming. Cataract, occurring in patients with diabetes, has also disappeared without treatment or cure of the diabetes.

Treatment which is a benefit to cataract has for its object relaxation of the eyes and mind.

The quickest cure of cataract is obtained by the memory or imagination of perfect sight. It can be demonstrated that when the patient remembers some letter as well with the eyes open as with the eyes closed, that the vision is improved, and when the memory is perfect with the eyes open, perfect vision is obtained at once and the cataract disappears. This startling fact has been ridiculed by people who did not test the matter properly.

When the patient stares, concentrates, or makes an effort to see, the memory, imagination, the vision, always become worse. The patient and others can feel, with the tips of the fingers lightly touching the closed upper eyelid, that the eyeball becomes harder when imperfect sight is remembered or imagined. But when perfect sight is remembered or imagined, it can always be demonstrated that the eyeball becomes as soft as is the case in the normal eye. When the patient practices the swing successfully, or practices other methods which bring about relaxation of the muscles on the outside of the eyeball, it becomes soft, and the cataract is lessened.

After an operation for the removal of cataract, a thin membrane usually forms over the pupil of the eye, which impairs the vision. This membrane is called a secondary cataract. Sometimes another operation, a puncture through this membrane, is beneficial. In a recent case, a man, after the removal of the lens for congenital cataract, came to me for treatment. Without glasses his vision was 15/200; with convex 15.00 D. S., the vision was improved to 15/70+.

The patient hesitated about taking treatment at this time because he had heard that I always removed the glasses. He felt that on account of his work, he had better defer the treatment until such time as it was convenient to go without his glasses. I asked him if he would go without his glasses if I improved his vision so that he could see as well, or better, without them, as he was now able to see with them. He answered that he would do as I recommended. With the aid of palming, swinging, and perfect memory and imagination, the vision very promptly improved to 15/15.

Stories from the Clinic

No. 60. Two Cases of Cataract

By EMILY C. LIERMAN

SO many times I have been asked, "Is it really possible to cure cataract by Dr. Bates' Method?" I can prove that it is. In the March, 1920, number of "Better Eyesight," I wrote about a case of cataract under treatment at the Harlem Hospital Clinic. This case was a woman seventy-three years old who was determined to be cured without an operation. In October, 1916, she had visited another dispensary where an operation was advised. The doctors there told her however, that she must wait until the cataract was ripe before the operation could be performed. Later she heard about Dr. Bates curing cataract without an operation, and tried out the method as well as she could all by herself. In March, 1919, she visited Dr. Bates in his office, and he helped her.

This woman made her living by mending clothes in an orphanage, so we were glad to treat her in the Clinic where she did not have to pay. Three days a week she came, no matter how bad the weather was.

On her first visit she read the forty line at four feet from the test card, then her vision blurred. She knew just what to do, and I did not have to tell her to palm. Just once she peeped at me through her fingers and said, "I'll fool the other doctors yet. My eyes won't have any cataract if I keep this up." She had a way of smiling out loud, and she still has. Her disposition has not changed a bit in all the time I have known her.

Recently she came to the Clinic to see me. In the room were two school nurses, and a young man who were there to observe the cases under treatment. I was not so sure that my dear old lady had retained her improved vision, because I had not seen her for a year or more. I placed the test-card eight feet from her eyes

and she read every letter correctly up to the fifteen line without the aid of palming. At times she read 10/10 after resting her eyes with the aid of palming and blinking.

The test I made this day was the best yet, because she read a strange card which she had never seen before. Then I placed her in the sun and gave her the doctor's fine print card, which she held six inches from her eyes. She looked at me in a funny way, and said, "Oh, I can read that easily." Then she proceeded to read the diamond type to the amazement of the others in the room.

Some day I am afraid the little lady will get into trouble. Whenever she sees a child in the street wearing glasses, she gets very much excited.

Recently she stopped two women with a child on the street and found fault with them because the little girl, three years of age, was wearing glasses. "Why don't you take that child to my doctor; he can cure her without glasses!"

Those who know our dear old lady can very well understand her good intentions, but how about the mother and friend of this little girl? They must have thought at first that she was of unsound mind. The women treated her kindly and accepted the "Better Eyesight Magazine" which she offered them.

We had another case of cataract under treatment at the Clinic, a man sixty-three years old. He had to have someone to lead him when he first came, which was less than a year ago. After his fourth visit to the Clinic he was able to travel by himself.

When Dr. Bates examined him with the retinoscope on the first day, he could see no red reflex in either eye.

I gave him a test card which he held very close to his eyes, and after he had palmed for a little while and imagined he saw the test card moving opposite to the movement of his body, he could make out the big C of the card at two inches from his eyes, but it looked very much blurred to him. Before he left the Clinic that day he became able to read several lines of the test card, and

the letters cleared up which, of course, gave him a great deal of encouragement. What helped him so quickly was that he was quite sure we could improve his sight. He did exactly as he was told. Keeping up that steady swing of his body while standing, slow and easy, without any effort, stopped the staring, or prevented it. Palming and imagining his body was moving were a rest and relaxation to him also.

After he had been coming for a month or more, he became able to read all the letters of the test card, as he held the card very close to his eyes. Three months later he was able to read the large letters of the card two feet away, and the ten-line letters of the bottom line at three inches from his eyes. Always when he came, which was every Saturday morning, he had something encouraging to tell us about his eyes. The signs in the subway on his way from Brooklyn became more clear and distinct. He was able to dodge people in a crowd. At the present time, even people with normal vision have to be mighty careful to avoid injury both in the street and in the subway.

It is now about ten months since this patient first came for treatment, and on his last visit he read very fine print at three inches from his eyes, and saw the fifty-line letters more than a foot away. His vision improves by practicing with print much finer than diamond type, and his jolly disposition is also a great help.

It is a great relief to be able to say to a Clinic patient when he first comes to us: "You are welcome here for treatment, no matter where you live." At the Harlem Hospital Clinic, the authorities there turned away many poor souls who needed treatment of their eyes. Each district has a free hospital, and those who lived in another district were not admitted. While it was pitiful, it had to be so, because we could not take care of them all.

Here in our office also, we have to limit the number of patients treated in the Clinic, so we can only take care of patients who have no source of income, or who are sent to us by physicians.

Strain

By Emily A. Meder

WE are often awed by the almost uncanny wisdom of the philosophers and teachers who lived centuries ago. After extensive experiments and research work, our scientists discovered certain properties in a drug, which proved invaluable during the War. It was later found out that this property had been used as an every-day remedy in Japan for centuries. It is well-known that India possesses the secret of cures for various diseases, which our scientists would be glad to know of.

Dr. Bates has made the important discovery that all cases of defective sight are caused by strain, tension or rigidity of the eye and mind. There are a great many people who refuse to accept this fact, although their imperfect sight, and perhaps other troubles are due to this cause.

Read what one Chinese Sage wrote about strain many, many years ago:

"In love or in hate, rigidity is final; in art fatal. Elasticity means life in the plants and flowers and trees, and in the wings of a bird, as in the mind. When the sap goes from the branches, they become rigid, and the storms break them down. When the artist's mind closes against the new ideas that are the mind's strength, as the sap is the trees, the brain becomes rigid, and arid, and neither philosophy, poetry nor painting can be produced thereby.

"Rigidity and death are synonymous."

The eyes have perfect sight when they are relaxed. It is not difficult; when there is an absence of strain, the eyes do nothing. They don't squint, or stare or try to see.

When the eyes are relaxed, the body is relaxed, strain disappears, and the truth of Dr. Bates' discovery is proven.

Remember—Rigidity, strain and death are synonymous. Be relaxed!

Clinic Reports from London

We have heard from several of our English correspondents praising the work done by the "Better Eyesight League of Great Britain and Ireland." We are pleased to publish a few of Mr. Price's reports. Notice that all cases are accepted, including those with little perception of light, which have to be led into the office. A history of the progress of these severe cases proves the usefulness and need of this work.

A MAN BLIND IN ONE EYE FOR MANY YEARS

THIS is the case of a man who has endeared himself to all of us. He is a match seller in the gutter of one of our streets and partly because of his curly hair and partly because of his sunny smile (he is an Irishman) we have christened him Curly. There are occasions when his cheeriness is of great assistance to the other patients.

His vision when first tested was 10/60 with the right eye and nothing whatever with the left. He had no perception of light in the left and said that he had not had for many years, and was told at the hospital that it was quite gone and nothing could be done.

His vision has improved to 10/50 and the left eye is much better and has quite a good perception of light. His near sight has improved more than his distant.

(We are in hopes that Capt. Price can send us a further report of Curly's progress.)

BLIND FOR FIVE YEARS

(This case should encourage those who have only slight perception of light.)

A few weeks ago there was lead into the Clinic a man of 65 who told us he had been blind for five years and the doctors at the hospital had told him nothing more could be done for him, as his case was hopeless.

On testing his sight we found the right vision 3/80 and the left vision only just perception of light.

He was eager to know if we thought he could be helped and listened attentively while he was being told

how to palm and how to strengthen his eyes by splashing them with cold water. He started right away palming and was left to amuse himself in this way, while other patients were attended to, and afterwards he said his eyes felt rested and much easier. He was asked what he was to do at home during the week to see if he had remembered the directions given to him, and then went home in a very hopeful frame of mind.

The following week he came along and looked rather more cheerful and was very excited to tell us that he thought he could see a little with the blind eye. Both eyes were tested, the right one was now 3/60, and with the blind eye he could see the big C, the 200 line when the Chart was held close.

Two weeks later we held the Clinic in another room and we were amazed to see him walk boldly in alone. He was looking much better and very proud of himself. He had been under the doctor's care for the last two or three months as he was generally run down, and this week he was delighted to tell us that he had caught his doctor napping. His doctor had greeted him one morning by saying how much better his eyes were looking, how much brighter and more alive. "Yes, because I am having treatment for them," said our friend. He told the doctor of the treatment, whose reply was that it was rubbish and could not possibly do any good. "Well, you said yourself how much better they were looking, and they must look very different for you to notice them and remark on them, and besides I can see more than I did."

He continues to be very much in earnest and is now able to see 3/30 with the right eye, and can read the 40 line quite easily close up to the other eye which previously had only perception of light.

A MAN WHO HAS WORN GLASSES FOR 60 YEARS

This man without his glasses was very helpless. He had no vision at all with the right eye, just perception of light, but very slight. The left eye was such that he could read with difficulty the 60 line at 6 inches. In three weeks the vision with both eyes was improved, so that at 6 inches he could read the 20 line comfortably and the 15 line with difficulty. The right eye is better but the improvement is not so marked as that of the left. It is a great joy to help this man, he is so grateful for the smallest thing that one does, and his childlike faith and obedience is something rarely seen. The reason he has made so much progress in so short a time is due to the fact that he cooperates willingly and with pleasure and is really interested in getting his sight.

One notices that on the whole people with slightly imperfect sight are not sufficiently interested in getting their sight normal to take much trouble. If it could be done for them they would not mind; but they do not like to bring it about themselves. The continuous relaxation practiced by those with imperfect sight is a joy to see and they are well paid for it.

The Elephant and the Fairies

By GEORGE GUILD

IT is a fact that few of us realize that we have never seen a fairy wearing glasses. Why shouldn't they wear glasses? Little boys and girls wear glasses. Little boys and girls like fairies, yet it is unheard of for fairies to imitate what other people do, and wear those dreadful goggles which spoil the eyes and faces of beautiful young children. Many a fairy has whispered in the ears of children that glasses are bad. Many a fairy has whispered into the ears of a mother that glasses were an injury to the eyes, with the result that mothers who enjoy the society of their children are troubled about the glasses.

One evening after everybody had gone to bed, the father of a family sat in his chair dozing, after he had read the evening paper. Many fairies came and whispered in his ears that glasses were bad for his children. He tried to argue the matter with them.

"Why shouldn't they wear glasses? The doctor says it does them good. They cost a lot of money, and my children are all the time breaking them. But if it does them good, why shouldn't they wear them?"

The fairies remonstrated with him and told him that he could not see with his eyes, he could not see with his mind, and that he was just as blind as the five men were who tried to describe an elephant which they had never seen.

"Well, tell me all about it," said he.

So one of the fairies perched herself on his right shoulder, and told him the story which illustrated how wrong some people can be.

Once upon a time many centuries ago, an elephant came to a small village where no person had ever seen such a creature before. Five blind men were coaxed with some flattery to give their opinion of the elephant.

One grasped the tail and declared: "The elephant is very much like a snake." The roar of laughter from the spectators upset him very much.

The second blind man leaned against the side of the elephant and said: "The elephant is very much like a high wall." The applause of the mob was tremendous.

The third handled one of the elephant's legs. "Yes," he said, "The elephant is very much like a pillar." The applause which followed bothered him.

The fourth grasped one of the elephant's ears, and very solemnly asserted: "The elephant is similar to a fan." More applause and laughter greeted this opinion which also disturbed the blind man.

The fifth felt of the sharp pointed tusks, and said: "The elephant is very much like a spear." As an encore to the applause, he corrected himself and announced: "The elephant is like two spears."

The five blind men gathered together. The vigorous arguments of each blind man to prove that he was right and that all the others were wrong, amused the populace for some hours.

The world is full of blind people who have eyes and minds which do not see. The world is full of Good Fairies who teach us how to see with our eyes and minds.

The next morning the father told his wife all about his experience with the fairies, and when the children appeared for breakfast wearing their large rimmed spectacles, he saw how their eyes and faces were injured by them. His wife saw the same thing, and they both exclaimed in one breath: "Take off those horrid glasses, and never wear them again."

Then the little girl took off her glasses and dropped them in the waste-basket with a smile. The little boy dropped his on the floor and, with the heel of his heavy shoe, he smashed them into little bits, and laughed.

The father was astonished, and asked: "Why did you do that?"

The little boy laughed loudly, and cried: "Because I have got the best of the horrid things. They never did me any good. They hurt my eyes and kept me off the baseball team. I cannot tell you how glad I am to be rid of them."

The little girl also was smiling, and they soon were all smiling, and they have been smiling pretty much all the time ever since.

Report of the League Meeting

By DOROTHY MAITLAND

THE annual business meeting of the Better Eyesight League was held Tuesday evening, January 13th, at 383 Madison Avenue. We noted with regret the absence of the secretary, Miss Secor, who was ill. Miss Hurty conducted the meeting.

The treasurer's yearly report was made and accepted.

For the benefit of the visitors, Miss Hurty briefly outlined the work of the League and the part each loyal member takes in it. This is to improve his own vision and help others to improve theirs. The work with children was emphasized as being the most essential point in the League's work. Those in charge of children were

asked to cooperate with the League in order to reach those children whose defective vision can be corrected at the start.

The nominating committee submitted the following list of officers for the ensuing year. The acting secretary cast a unanimous vote in their favor. The new officers are:

Miss May Secor, President.
Mr. N. A. Weiss, Vice-President.
Miss Mabel Young, Secretary.
Mrs. Wm. R. Marsden, Treasurer.

In view of Miss Secor's absence, Miss Hurty continued as chairman for the evening.

Miss Hurty cited a case of a boy in her class last year who suffered with severe headaches. He received no special treatment but worked out suggestions with good results. He now claims Miss Hurty cured his eyes and relieved his headaches entirely.

Dr. Bates gave us an interesting talk on cataracts. He explained that although all imperfect sight is due to strain, each defect is caused by a different kind of strain. When one has cataracts the eyeballs become hard. Relaxation through swinging, a perfect memory or a perfect imagination softens the eyeball and the cataract disappears. Dr. Bates claims that nearly all cases of cataract are materially benefited at the first visit. Babies with cataracts have been cured when the mothers swayed them in their arms.

Have you learned to swing by means of your thumb? If not, try it now. Place your thumb and forefinger together and rub them lightly in a circular movement. When done correctly you will feel your whole body move and everything about you will seem to move. You know the value of this form of relaxation.

An instance was cited of a movie director who carried a large diamond in his vest pocket and unless he kept moving that diamond between his thumb and forefinger he could not direct his cast. The gentleman who related the case realized the significance of it as soon as the thumb movement was explained to him, and he was very glad to tell us about it.

Perfect sight is natural and a normal condition, and those who have bad vision sometimes instinctively do those things which help them and improve their sight.

The meetings are proving so helpful and officers so enthusiastic that we extend a warm invitation to all those who are interested in this work.

Helpful Hints from Correspondents

These are extracts from letters received from book readers and others. They might suggest new ways of improving your vision.

"I AM proud of my ability to eliminate headaches, fatigue and even nausea resulting from eyestrain. I formerly retired to my room when one of my severe headaches came on, and required the entire household to be absolutely quiet. Now, if my head or eyes pain, I go to my room, palm for a few minutes, swing the card, and feel rested. The headaches usually disappear when I am relaxed. Another discovery! The headaches only come when I do something wrong. The last one was caused by late shopping, rushing to put the house in order, and cooking the whole dinner myself. When I slowly did the long swing (with the broom in one hand and a duster in the other), I grew calm enough to greet my guests pleasantly."

"I was shocked to discover that I was a starer. I knew that Dr. Bates advocated blinking to prevent the stare, and thought that I blinked and shifted constantly. Upon watching myself, however, I found that I only blinked when I remembered to do it consciously. I have made it a rule now to blink my eyes at the end of each line. This compulsory rule is becoming easier, and I believe that it will become a good habit real soon."

Questions and Answers

QUESTION—What is most helpful when one is dreadfully nearsighted and finds it almost impossible to see without glasses?

ANSWER—Practice palming as frequently as possible every day. Keeping the eyes closed whenever convenient for five minutes ten times a day is also helpful.

QUESTION—I notice that my squint eye does straighten after palming, but reverts when I stop. How can I tell when and how I strain?

ANSWER—Avoid staring after palming and blink all the time. You can demonstrate that staring is a strain by consciously doing it for a few seconds.

QUESTION—If glasses are harmful, how do you account for the benefit the wearer receives; also relief from headaches?

ANSWER—(a) Eye glasses are harmful because the benefit received is not permanent. (b) The mental effect of glasses helps some people, but the headaches are not relieved permanently and the vision is usually made worse.

QUESTION—Why is fine print beneficial?

ANSWER—Fine print is beneficial because it cannot be read by a strain or effort. The eyes must be relaxed.

QUESTION—How can I correct the vision of my three-year-old son, who won't palm and doesn't understand it? He is far-sighted.

ANSWER—Make a test card with black letters on white paper. The letters to be composed of E's pointing in various directions. These are to be graduated in size, from about 3½ inches to a quarter of an inch. Have the child read them from 10 to 20 feet away. Have him blink constantly while telling in which direction the E's are pointing.

Catalogue of Other Publications

BETTER EYESIGHT MAGAZINE

Back numbers may be obtained here which contain articles on the cause and cure of the following defects: Myopia, Squint, Glaucoma, Cataract, Pain, Blindness, Presbyopia and Retinitis Pigmentosa.
These articles include instructions for treatment.

Bound Volumes

Each volume contains one year's issue of twelve magazines.

Price, $3.50.

Burning Glass

If you notice a strain on your eyes, after emerging from a building into the sunlight, you need the Burning Glass. If the light feels uncomfortable, or if you cannot look up at the sun, the burning glass will help you. Instructions are issued on request.
If you need it, send for it today. Price $5.00.

Fine Print for Relaxation

The Bible has been reduced from $4.00 to $2.50. Read what Dr. Bates says about fine and microscopic type, then get a Bible. This unique book measures only one by one and a half inches, and contains the Old and New Testament.

The Booklet

of fine print contains three chapters from the small Bible, together with "The Seven Truths of Normal Sight" as discovered by Dr. Bates. Instructions are also printed in the front of the book. Price 25c

Test Cards

These prove invaluable in practicing Dr. Bates' method. Instructions issued. Can be used to test the eyes, follow progress, and improve sight.

25c.—50c.—75c.

THE MEMORY CURE

When the sight is perfect, the memory is also perfect, because the mind is perfectly relaxed. Therefore the sight may be improved by any method that improves the memory. The easiest thing to remember is a small black spot of no particular size and form; but when the sight is imperfect it will be found impossible to remember it with the eyes open and looking at letters, or other objects with definite outlines. It may, however, be remembered for a few seconds or longer, when the eyes are closed and covered, or when looking at a blank surface where there is nothing particular to see. By cultivating the memory under these favorable conditions, it gradually becomes possible to retain it under unfavorable ones, that is, when the eyes are open and the mind conscious of the impressions of sight. By alternately remembering the period with the eyes closed and covered and then looking at the Snellen test card, or other letters or objects; or by remembering it when looking away from the card where there is nothing particular to see, and then looking back; the patient becomes able, in a longer or shorter time, to retain the memory when looking at the card, and thus becomes able to read the letters with normal vision. Many children have been cured very quickly by this method. Adults who have worn glasses have greater difficulty. Even under favorable conditions, the period cannot be remembered for more than a few seconds, unless one shifts from one part of it to another. One can also shift from one period, or other small black object, to another.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I NOVEMBER, 1919 No. 5

REASON AND AUTHORITY

Some one—perhaps it was Bacon—has said: "You cannot by reasoning correct a man of ill opinion which by reasoning he never acquired." He might have gone a step farther and stated that neither by reasoning, nor by actual demonstration of the facts, can you convince some people that an opinion which they have accepted on authority is wrong.

A man whose name I do not care to mention, a professor of ophthalmology, and a writer of books well known in this country and in Europe, saw me perform an experiment upon the eye of a rabbit which, according to others who had witnessed it, demonstrated beyond any possibility of error that the lens is not a factor in accommodation. At each step of the operation he testified to the facts; yet at the conclusion he preferred to discredit the evidence of his senses rather than accept the only conclusion that these facts admitted.

First he examined the eye of the animal to be experimented upon with the retinoscope and found it normal, and the fact was written down. Then the eye was stimulated with electricity, and he testified that it accommodated. This was also written down. I now divided the superior oblique muscle, and the eye was again stimulated with electricity.

"PAGE TWO"

ON page two of this magazine are printed each month specific directions for improving the sight in various ways. Too many subscribers read the magazine once and then mislay it. We feel that at least page two should be kept for reference.

When the eyes are neglected the vision may fail. It is so easy to forget how to palm successfully. The long swing always helps but it has to be done right. One may under adverse conditions suffer a tension so great that the ability to remember or imagine perfectly is modified or lost and relaxation is not obtained. The long swing is always available and always brings sufficient relief to practice the short swing, central fixation, the perfect memory and imagination with perfect relief.

Be sure and review page two frequently; not only for your special benefit but also for the benefit of individuals you desire to help!

Persons with imperfect sight often have difficulty in obtaining relaxation by the various methods described in the book and in this magazine. It should be emphasized that persons with good vision are better able to help others than people who have imperfect sight or wear glasses. If you are trying to cure yourself avoid people who wear glasses or do not see well. Those individuals are always under a strain and the strain is manifested in their face, in their voices, in their walk, the way they sit, in short in everything that they do.

Strain is contagious. Teachers in Public Schools who wear glasses are a menace to their pupils' sight. Parents who wear glasses or who have imperfect sight lower the vision of their children. It is always well when treating children or adults to keep them away from people with imperfect sight.

Dr. W. H. Bates
7-28-1924

CRW - Dec. 26, 1924

Better Eyesight

A Monthly Magazine Devoted to the Prevention and Cure of Imperfect Sight without Glasses

Published by the Central Fixation Company, 300 Madison Ave., New York, as the official organ of the BETTER EYESIGHT LEAGUE, a national organization to relieve the sufferings and discomfort of those afflicted with imperfect eyesight, to disseminate the knowledge of the scientific cure and prevention of imperfect sight without the use of glasses, and to promote further research and investigation into the causes for imperfect eyesight and its improvement without the use of artificial lenses.

W. H. BATES, M. D., Editor

VOL. VII. JULY, 1922 No. 1

THE STORY OF VIOLET

By W. H. Bates, M. D.

Just what, in simple words, is Central Fixation? If you will read this story of a ten-year-old girl who discovered it for herself you will know, not in terms of theory or in scientific phrases, but in practical simplicity.

SOME years ago a young girl, aged 10, was brought to me for the cure of imperfect sight and squint. She was wearing quite strong glasses for relief.

The right or squinting eye, even with her strong glasses, had very poor vision. The best she could see with this eye with or without glasses was counting fingers at about three feet. Looking straight ahead of her with this squinting eye, with the other eye covered, everything was visible and, she said, perfectly dark, and what she did see at any time with this eye was off to one side. She was unable to read with this eye with or without her glasses.

MAKE YOUR SIGHT WORSE

Strange as it may seem there is no better way of improving the sight than by making it worse. To see things worse when one is already seeing them badly requires mental control of a degree greater than that required to improve the sight. The importance of these facts is very great. When patients become able to lower their vision by conscious staring, they become better able to avoid unconscious staring. When they demonstrate by increasing their eccentric fixation that trying to see objects not regarded lowers the vision, they may stop trying to do the same thing unconsciously.

What is true of the sight is also true of the imagination and memory. If one's memory and imagination are imperfect, they can be improved by consciously making them worse than they are. Persons with imperfect sight never remember or imagine the letters on the test card as perfectly black and distinct, but to imagine them as grey and cloudy is very difficult, or even impossible, and when a patient has done it, or tried to do it, he may become able to avoid the unconscious strain which has prevented him from forming mental pictures as black and distinct as the reality.

To make imperfect sight worse is always more difficult than to lower normal vision. In other words, to make a letter which already appears grey and indistinct noticeably more cloudy is harder than to blur a letter seen distinctly. To make an imperfect mental picture worse is harder than to blur a perfect one. Both practices require much effort, much hard disagreeable work; but they always, when successful, improve the memory, imagination and vision.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1920, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. III SEPTEMBER, 1920 No. 3

EXPERIENCES WITH CENTRAL FIXATION

By M. H. STUART, M.D.

Moultrie, Ga.

We are greatly indebted to Dr. Stuart for sending us this remarkable story of his own cure and that of his patients, all of which was accomplished without personal assistance by means of the information presented in this magazine.

Some sixteen years ago, when working as a stenographer, I developed indigestion and became extremely nervous, one of my symptoms being a tension in the spinal cord between the shoulder blades which was extremely uncomfortable. In the late afternoon and evening I would become so nervous that I could scarcely sit still, and I have walked five miles into the country and back again to get relief. I tried dieting for the indigestion, but after two months failed to get any relief. A medical student then suggested that the trouble might be due to my eyes. I went to an oculist, who fitted me with glasses, and all my troubles ceased.

The glasses given to me were convex 0.25, axis 90. A few years later, when I was in New York doing post-graduate work at the Polyclinic, they were changed to concave

REST

All methods of curing errors of refraction are simply different ways of obtaining rest.

Different persons do this in different ways. Some patients are able to rest their eyes simply by closing them, and complete cures have been obtained by this means, the closing of the eyes for a longer or shorter period being alternated with looking at the test card for a moment. In other cases patients have strained more when their eyes were shut than when they were open. Some can rest their eyes when all light is excluded from them by covering with the palms of the hands; others cannot, and have to be helped by other means before they can palm. Some become able at once to remember or imagine that the letters they wish to see are perfectly black, and with the accompanying relaxation their vision immediately becomes normal. Others become able to do this only after a considerable time. Shifting is a very simple method of relieving strain, and most patients soon become able to shift from one letter to another, or from one side of a letter to another in such a way that these forms seem to move in a direction opposite to the movement of the eye. A few are unable to do this, but can do it with a mental picture of a letter, after which they become able to do it visually.

Patients who do not succeed with any particular method of obtaining rest for their eyes should abandon it and try something else. The cause of the failure is strain, and it does no good to go on straining.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1920, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. II APRIL, 1920 No. 4

HOW I HELPED OTHERS

By VICTORIA COOLIDGE

When I had become able to read without glasses, and my headaches had become less and less frequent, and less severe each time, I was so enthusiastic over my experience that I was anxious to help others. My brother was my first patient. He was so much interested in what had been done for me that he wanted to try it himself; but I never dreamed of being able to help him, because his eyes were almost as bad as my own had been, his glasses being: right eye convex 3.25 D.S.; left eye, convex 3.75 D.S. combined with 0.50 D.C., 180 degrees. However, I knew the treatment could do no harm, so I decided that I would try to show him as nearly as I could what Dr. Bates had done for me. Imagine my surprise, then, when I found that he, too, by holding the fine print six inches from his eyes and looking alternately at the top and bottom of the letters, became able to read it just as I had become able to do so. He proved to be a model pupil as soon as he had demonstrated to his own satisfaction that he must leave off his glasses all the time if he wanted to make any appreciable progress. He has now done without them for about a year, and has made remarkable prog-

Better Eyesight Magazine by William H. Bates M.D.

In Small, Fine Print - July, 1919 to December, 1919

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY

39-45 EAST 42nd STREET NEW YORK, N. Y.

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Copyright
Dr. W. H. Bates
Sept. 28. 1924

BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glasses

Copyright, 1919, by the Central Fixation Publishing Company
Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No. 1

FOREWORD.

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.[1] This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent. of the registrants were rejected, 13 per cent. more than for any other single cause.[2]

Later the standard was lowered[3] so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interferring with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection in the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

[1]Havard: Manual of Military Hygiene for the Military services of the United States, third revised edition 1917, p. 195.

[2]Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.

[3]Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 75, issued through office of the Provost Marshal General.

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Copyright
Dr. W. H. Bates
Sept. 28. 1924

BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glasses

Copyright, 1919, by the Central Fixation Publishing Company
Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No. 1

FOREWORD.

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.[1] This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent. of the registrants were rejected, 13 per cent. more than for any other single cause.[2]

Later the standard was lowered[3] so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interferring with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection in the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

[1]Havard: Manual of Military Hygiene for the Military services of the United States, third revised edition 1917, p. 195.

[2]Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.

[3]Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 75, issued through office of the Provost Marshal General.

3.

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Copyright, 1919, by the Central Fixation Publishing Company

BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glasses

Copyright, 1919, by the Central Fixation Publishing Company
Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No. 1

FOREWORD.

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.[1] This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent. of the registrants were rejected, 13 per cent. more than for any other single cause.[2]

Later the standard was lowered[3] so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interferring with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection in the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

[1]Havard: Manual of Military Hygiene for the Military services of the United States, third revised edition 1917, p. 195.

[2]Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.

[3]Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 75, issued through office of the Provost Marshal General.

Over ten per cent. (10.65) of the registrants were disqualified by them, while defects of the bones and joints and of the heart and blood-vessels ran respectively one and one and a half per cent. higher.[1]

Most of the revelations about the physical condition of the American people which resulted from the operation of the draft law had been anticipated by persons who had been giving their attention to such matters—and whose warnings had long fallen upon deaf ears—but it is doubtful if anyone had formed an adequate conception of the truth regarding the condition of the nation's eyesight. That it should be impossible to raise an army with even half normal vision in one eye, and that one man in every ten rejected for military service should have been unable, even by the aid of glasses, to attain this standard, is a situation so appalling that words fail to characterize it, so incredible that only the most unimpeachable evidence could compel belief in it. Under these circumstances it seems to me the plain duty of anyone who has found any means of controlling the evil in question to give the facts the widest possible publicity.

Most writers on ophthalmology today appear to believe that defective eyesight is part of the price we must pay for civilization. The human eye, they say, was not designed for the uses to which it is now put. Eons before there were any schools, or printing presses, electric lights, or moving pictures, its evolution was complete. In those days it served the needs of the human animal perfectly, but it is not to be expected, we are told, that it should respond without injury to the new demands. By care it is thought that this injury may be minimized, but to eliminate it wholly is considered to be too much to hope for. Such is the depressing conclusion to which the monumental labors of a hundred years and more have led us.

I have no hesitation in stating that this conclusion is unqualifiedly wrong. Nature did not blunder when she made the human eye, but has given us in this intricate and wonderful mechanism, upon which so much of the usefulness as well as the pleasure of life depends, an organ as fully equal to the needs of civilization as to those of the stone age. After thirty-three years of clinical and experi-

[1]Second Report of the Provost Marshal General to the Secretary of War on the Operations of the Selective Service System to December 20, 1918.

mental work, I have demonstrated to my own satisfaction and that of others that the eye is capable of meeting the utmost demands of civilization; that the errors of refraction which have so long dogged the footsteps of progress, and which have made the raising of an army during the recent war so difficult, are both preventable and curable; and that many other forms of imperfect sight, long held to be incurable, may be either improved or completely relieved.

All these discoveries have been published in the medical press, but while their reliability has never been publicly disputed, the medical profession has so far failed to make use of them. Meantime the sight of our children is being destroyed daily in the schools, and our young men and women are entering life with a defect which, if uncorrected, must be a source of continual misery and expense to them, sometimes ending in blindness or economic ruin. Admitting for the sake of argument that I may be wrong in my conclusion that these things are unnecessary, it is time I was proven to be wrong. I should not be allowed to play on the forlorn hope of a suffering world. If I am right, as I know I am, a suffering world should no longer be deprived of the benefit of my discoveries.

To give publicity to these discoveries and arouse discussion regarding them is one of the objects for which this magazine has been started. At the same time its pages are open to everyone who has any light to throw upon the problem. It has too long been the custom of ophthalmologists to disregard every fact at variance with the accepted theories. Such facts, when observed, have usually not been published, and when published they have either been ignored or explained away in some more or less plausible manner. The management of this magazine wishes to make it a medium for the publication of such facts, which, it may safely be asserted, are known to every ophthalmologist of any experience, and which, if they had received proper consideration, would long ago have led us out of the blind alley in which we are now languishing.

While I think it may be truthfully said that many of my methods are new and original, other physicians, both in this country and in Europe, have cured themselves and others by treatment without glasses. Lay persons have done the same.

In *The Autocrat of the Breakfast Table,* Oliver Wendell Holmes published a very remarkable case of the cure of presbyopia.

"There is now living in New York State," he says, "an old gentleman who, perceiving his sight to fail, immediately took to exercising it on the finest print, and in this way fairly bullied Nature out of her foolish habit of taking liberties at five-and-forty, or thereabouts. And now this old gentleman performs the most extraordinary feats with his pen, showing that his eyes must be a pair of microscopes. I should be afraid to say how much he writes in the compass of a half-dime, whether the Psalms or the Gospels, or the Psalms and the Gospels, I won't be positive."[1]

An officer in the American Expeditionary Forces, whose letter is published elsewhere, wrote to me about a year ago that he has cured himself of presbyopia, and after half a lifetime of misery was entirely free from eye discomfort. There must be many more of these cases, and we want to hear of them.

FUNDAMENTAL FACTS.

For about seventy years it has been believed that the eye accommodates for vision at different distances by changing the curvature of the lens, and this theory has given birth to another, namely, that errors of refraction are due to a permanent organic change in the shape of the eyeball. On these two ideas the whole system of treating errors of refraction is based at the present time.

My experiments and clinical observations have demonstrated that both these theories are wrong.[2] They have shown:

(1) That the lens is not a factor in accommodation;

(2) That the change of focus necessary for vision at different distances is brought about by the action of the superior and inferior obliques, which, by their contraction and relaxation, change the length of the eyeball as the length of the camera is changed by the shortening and lengthening of the bellows;

(3) That errors of refraction are due to the abnormal action of these muscles and of the recti, the obliques being responsible for myopia and the recti for hypermetropia, while both may combine in the production of astigmatism;

(4) That this abnormal action of the muscles on the outside of the eyeball is always due to mental strain of some kind.

[1]Everyman's Library, 1908, pp. 166 and 167.

[2]Bates: The Cure of Defective Eyesight by Treatment Without Glasses. N. Y. Med. Jour., May 8, 1915. A Study of Images Reflected from the Cornea, Iris, Lens and Sclera. N. Y. Med. Jour., May 18, 1918.

This being the case it follows that all errors of refraction can be cured by relaxation. All methods of treatment, therefore, are simply different ways of obtaining relaxation. And because it is impossible to relax the eye muscles without relaxing the mind—and the relaxation of the mind means the relaxation of the whole body—it also follows that improvement in the eyesight is always accompanied by an improvement in health and mental efficiency.

The fact that all errors of refraction are functional can often be demonstrated within five minutes. When a person with myopia, hypermetropia, or astigmatism, looks at a blank wall without trying to see, the retinoscope, with a plane mirror, at six feet, indicates, in flashes or more continuously no error of refraction. The conditions should be favorable for relaxation and the doctor should be as much at his ease as the patient.

It can also be demonstrated with the retinoscope that persons with normal sight do not have it all the time.[1] When the vision of such persons becomes imperfect at the distance it will be found that myopic refraction has been produced;[2] when it becomes imperfect at the near point it will be found that hypermetropia has been produced.

CENTRAL FIXATION.

An invariable symptom of all abnormal conditions of the eyes, whether functional or organic, is the loss of central fixation. When a person with perfect vision looks at a letter on the Snellen test card he can always observe that all the other letters in his field of vision are seen less distinctly. He can also observe that when he looks at the bottom of even the smallest letter on the card, the top appears less black and less distinct than the part directly regarded, while the same is true of a letter of diamond type, or of the smallest letters that are printed. When a person with imperfect sight looks at the card he can usually observe that when he can read a line of letters he is able to look at one letter of a line and see it better than the others, but the letters of a line he cannot read may look all alike,

[1]Bates: The Imperfect Sight of the Normal Eye. N. Y. Med. Jour., Sept. 8, 1917.

[2]*Idem:* The Cause of Myopia. N. Y. Med. Jour., March 16, 1912.

or those not directly regarded may even be seen better than the one fixed.

These conditions are due to the fact that when the sight is normal the sensitiveness of the fovea is normal, but when the sight is imperfect, from whatever cause, the sensitiveness of the fovea is lowered, so that the eye sees equally well, or even better, with other parts of the retina. Contrary to what is generally believed, the part seen best when the sight is normal is extremely small. The text-books say that at twenty feet an area having a diameter of a quarter of an inch can be seen with maximum vision, but anyone who tries at this distance to see every part of one of the small letters of the Snellen test card—the diameter of which is about a quarter of an inch—equally well at one time will immediately become myopic. The fact is that the nearer the point of maximum vision approaches a mathematical point, which has no area, the better the sight.

The cause of this loss of function in the center of sight is mental strain; and as all abnormal conditions of the eyes, organic as well as functional, are accompanied by mental strain, all such conditions must necessarily be accompanied by loss of central fixation. When the mind is under a strain the eye usually goes more or less blind. The center of sight goes blind first, partially or completely, according to the degree of the strain, and if the strain is great enough the whole or the greater part of the retina may be involved. When the vision of the center of sight has been suppressed, partially or completely, the patient can no longer see the point which he is looking at best, but sees objects not regarded directly as well, or better, because the sensitiveness of the retina has now become approximately equal in every part, or is even better in the outer part than in the center. Therefore in all cases of defective vision the patient is unable to see best where he is looking.

This condition is sometimes so extreme that the patient may look as far away from an object as it is possible to see it and yet see it just as well as when looking directly at it. In one case it had gone so far that the patient could see only with the edge of the retina on the nasal side. In other words, she could not see her fingers in front of her face, but could see them if she held them at the outer side of her eye. She had no error of refraction, showing that while every error of refraction is accompanied by eccentric fixa-

tion, the strain which causes the one condition is different from that which produces the other. The patient had been examined by specialists in this country and Europe, who attributed her blindness to disease of the optic nerve, or brain; but the fact that vision was restored by relaxation demonstrated that the condition had been due simply to mental strain.

Eccentric fixation, even in its lesser degrees, is so unnatural that great discomfort, or even pain, can be produced in a few seconds by trying to see every part of an area three or four inches in extent at twenty feet, or even less, or an area of an inch or less at the near point, equally well at one time, while at the same time the retinoscope will demonstrate that an error of refraction has been produced. This strain, when it is habitual, leads to all sorts of abnormal conditions and is, in fact, at the bottom of most eye troubles, both functional and organic. The discomfort and pain may be absent, however, in the chronic condition, and it is an encouraging symptom when the patient begins to experience them.

When the eye possesses central fixation it not only possesses perfect sight, but it is perfectly at rest and can be used indefinitely without fatigue. It is open and quiet; no nervous movements are observable; and when it regards a point at the distance the visual axes are parallel. In other words, there are no muscular insufficiencies. This fact is not generally known. The text-books state that muscular insufficiencies occur in eyes having normal sight, but I have never seen such a case. The muscles of the face and of the whole body are also at rest, and when the condition is habitual there are no wrinkles or dark circles around the eyes.

In most cases of eccentric fixation, on the contrary, the eye quickly tires, and its appearance, with that of the face, is expressive of effort or strain. The ophthalmoscope reveals that the eyeball moves at irregular intervals, from side to side, vertically or in other directions. These movements are often so extensive as to be manifest by ordinary inspection, and are sometimes sufficiently marked to resemble nystagmus. Nervous movements of the eyelids may also be noted, either by ordinary inspection, or by lightly touching the lid of one eye while the other regards an object either at the near point or the distance. The visual axes are never parallel, and the deviation from the normal

may become so marked as to constitute the condition of squint. Redness of the conjuctiva and of the margins of the lids, wrinkles around the eyes, dark circles beneath them and tearing are other symptoms of eccentric fixation.

Eccentric fixation is a symptom of strain, and is relieved by any method that relieves strain; but in some cases the patient is cured just as soon as he is able to demonstrate the facts of central fixation. When he comes to realize, through actual demonstration of the fact, that he does not see best where he is looking, and that when he looks a sufficient distance away from a point he can see it worse than when he looks directly at it, he becomes able, in some way, to reduce the distance to which he has to look in order to see worse, until he can look directly at the top of a small letter and see the bottom worse, or look at the bottom and see the top worse. The smaller the letter regarded in this way, or the shorter the distance the patient has to look away from a letter in order to see the opposite part indistinctly, the greater the relaxation and the better the sight. When it becomes possible to look at the bottom of a letter and see the top worse, or to look at the top and see the bottom worse, it becomes possible to see the letter perfectly black and distinct. At first such vision may come only in flashes. The letter will come out distinctly for a moment and then disappear. But gradually, if the practice is continued, central fixation will become habitual.

Most patients can readily look at the bottom of the big C and see the top worse; but in some cases it is not only impossible for them to do this, but impossible for them to let go of the large letters at any distance at which they can be seen. In these extreme cases it sometimes requires considerable ingenuity, first to demonstrate to the patient that he does not see best where he is looking, and then to help him to see an object worse when he looks away from it than when he looks directly at it. The use of a strong light as one of the points of fixation, or of two lights five or ten feet apart, has been found helpful, the patient when he looks away from the light being able to see it less bright more readily than he can see a black letter worse when he looks away from it. It then becomes easier for him to see the letter worse when he looks away from it. This method was successful in the following case:

A patient with vision of 3/200, when she looked at a

point a few feet away from the big C, said she saw the letter better than when she looked directly at it. Her attention was called to the fact that her eyes soon became tired and that her vision soon failed when she saw things in this way. Then she was directed to look at a bright object about three feet away from the card, and this attracted her attention to such an extent that she became able to see the large letter on the test card worse, after which she was able to look back at it and see it better. It was demonstrated to her that she could do one of two things: look away and see the letter better than she did before, or look away and see it worse. She then became able to see it worse all the time when she looked three feet away from it. Next she became able to shorten the distance successively to two feet, one foot and six inches, with a constant improvement in vision; and finally she became able to look at the bottom of the letter and see the top worse, or look at the top and see the bottom worse. With practice she became able to look at the smaller letters in the same way, and finally she became able to read the ten line at twenty feet. By the same method also she became able to read diamond type, first at twelve inches and then at three inches. By these simple measures alone she became able, in short, to see best where she was looking, and her cure was complete.

The highest degrees of eccentric fixation occur in the high degrees of myopia, and in these cases, since the sight is best at the near point, the patient is benefited by practicing seeing worse at this point. The distance can then be gradually extended until it becomes possible to do the same thing at twenty feet. One patient with a high degree of myopia said that the farther she looked away from an electric light the better she saw it, but by alternately looking at the light at the near point and looking away from it she became able, in a short time, to see it brighter when she looked directly at it than when she looked away from it. Later she became able to do the same thing at twenty feet, and then she experienced a wonderful feeling of relief. No words, she said, could adequately describe it. Every nerve seemed to be relaxed, and a feeling of comfort and rest permeated her whole body. Afterward her progress was rapid. She soon became able to look at one part of the smallest letters on the card and see the rest

worse, and then she became able to read the letters at twenty feet.

On the principle that a burnt child dreads the fire, some patients are benefited by consciously making their sight worse. When they learn, by actual demonstration of the facts, just how their visual defects are produced, they unconsciously avoid the unconscious strain which causes them. When the degree of eccentric fixation is not too extreme to be increased, therefore, it is a benefit to patients to teach them how to increase it. When a patient has consciously lowered his vision and produced discomfort and even pain by trying to see the big C, or a whole line of letters, equally well at one time, he becomes better able to correct the unconscious effort of the eye to see all parts of a smaller area equally well at one time.

In learning to see best where he is looking it is usually best for the patient to think of the point not directly regarded as being seen less distinctly than the point he is looking at, instead of thinking of the point fixed as being seen best, as the latter practice has a tendency, in most cases, to intensify the strain under which the eye is already laboring. One part of an object is seen best only when the mind is content to see the greater part of it indistinctly, and as the degree of relaxation increases the area of the part seen worse increases until that seen best becomes merely a point.

The limits of vision depend upon the degree of central fixation. A person may be able to read a sign half a mile away when he sees the letters all alike, but when taught to see one letter best he will be able to read smaller letters that he didn't know were there. The remarkable vision of savages, who can see with the naked eye objects for which most civilized persons require a telescope, is a matter of central fixation. Some people can see the rings of Saturn, or the moons of Jupiter, with the naked eye. It is not because of any superiority in the structure of their eyes, but because they have attained a higher degree of central fixation than most civilized persons do.

Not only do all errors of refraction and all functional disturbances of the eye disappear when it sees by central fixation, but many organic conditions are relieved or cured. I am unable to set any limits to its possibilities. I would not have ventured to predict that glaucoma, incipient cata-

ract and syphilitic iritis could be cured by central fixation; but it is a fact that these conditions have disappeared when central fixation was attained. Relief was often obtained in a few minutes, and sometimes this relief was permanent. Usually, however, a permanent cure required more prolonged treatment. Inflammatory conditions of all kinds, including inflammation of the cornea, iris, conjunctiva, the various coats of the eyeball and even the optic nerve itself, have been benefited by central fixation after other methods had failed. Infections, as well as diseases caused by protein poisoning and the poisons of typhoid fever, influenza, syphilis and gonorrhœa, have also been benefited by it. Even with a foreign body in the eye there is no redness and no pain so long as central fixation is retained.

Since central fixation is impossible without mental control, central fixation of the eye means central fixation of the mind. It means, therefore, health in all parts of the body, for all the operations of the physical mechanism depend upon the mind. Not only the sight, but all the other senses—touch, taste, hearing and smell—are benefited by central fixation. All the vital processes—digestion, assimilation, elimination, etc.—are improved by it. The symptoms of functional and organic diseases are relieved. The efficiency of the mind is enormously increased. The benefits of central fixation already observed are, in short, so great that the subject merits further investigation.

A TEACHER'S EXPERIENCES.

A teacher forty years of age was first treated on March 28, 1919. She was wearing the following glasses: O. D. convex 0.75 D. S. with convex 4.00 D. C., 105 deg.; O. S. convex 0.75 D. S. with convex 3.50 D. C., 105 deg. On June 9, 1919, she wrote:

I will tell you about my eyes, but first let me tell you other things. You were the first to unfold your theories to me, and I found them good immediately—that is, I was favorably impressed from the start. I did not take up the cure because other people recommended it, but because I was convinced: first, that you believed in your discovery yourself; second, that your theory of the cause of eye trouble was true. I don't know how I knew these two things, but I did. After a little conversation with you, you and your discovery both seemed to me to bear the ear-marks of the genuine article. As to the success of the method with myself I had a little doubt. You might cure others, but you might not be

able to cure me. However, I took the plunge, and it has made a great change in me and my life.

To begin with, I enjoy my sight. I love to look at things, to examine them in a leisurely, thorough way, much as a child examines things. I never realized it at the time, but it was irksome for me to look at things when I was wearing glasses, and I did as little of it as possible. The other day, going down on the Sandy Hook boat, I enjoyed a most wonderful sky without that hateful barrier of misted glasses, and I am positive I distinguished delicate shades of color that I never would have been able to see, even with clear glasses. Things seem to me now to have more form, more reality than when I wore glasses. Looking into the mirror you see a solid representation on a flat surface, and the flat glass can't show you anything really solid. My eye-glasses, of course, never gave me this impression, but one curiously like it. I can see so clearly without them that it is like looking around corners without changing the position. I feel that I can almost do it.

I very seldom have occasion to palm.[1] Once in a great while I feel the necessity of it. The same with remembering a period.[2] Nothing else is ever necessary. I seldom think of my eyes, but at times it is borne in upon me how much I do use and enjoy using them.

My nerves are much better. I am more equable, have more poise, am less shy. I never used to show that I was shy, or lacked confidence. I used to go ahead and do what was required, if not without hesitation, but it was hard. Now I find it easy. Glasses, or poor sight rather, made me self-conscious. It certainly is a great defect, and one people are sensitive to without realizing it. I mean the poor sight and the necessity for wearing glasses. I put on a pair of glasses the other day just for an experiment, and I found that they magnified things. My skin looked as if under a magnifying glass. Things seemed too near. The articles on my chiffonier looked so close I felt like pushing them away from me. The glasses I especially wanted to push away. They brought irritation at once. I took them off and felt peaceful. Things looked normal.

I see better in the street than I ever did with glasses. I can see what people look like across the street, can distinguish their features, etc., a thing I could not do with glasses, or before I wore them. I can see better across the river and further into people's houses across the street. Not that I indulge, but I noticed an increase of power while looking out of the window in school.

Speaking of school, I corrected an immense pile of examination papers the other day, five hours at a stretch, with an occasional look off the paper and an occasional turn about the room. I felt absolutely no discomfort after it. Two weeks previous to this feat I handled two hundred designs over and over again, looking at each one dozens and dozens of times to note changes and improvement in line and color. Occasionally, while this work was going on, I had to palm in the mornings on rising.

[1]By palming is meant the covering of the closed eyes with the palms of the hands in such a way as to exclude all the light, while remembering some color, usually black.

[2]Bates: *Memory as an Aid to Vision.* N. Y. Med. Jour., May 24, 1919.

I use my eyes with as much success writing, though once in a while after a lot of steady writing they are a little bit tired. I can read at night without having to get close to a light. I mention this because last summer I had to sit immediately under the light, or I could not see.

From the beginning of the treatment I could use my eyes pretty well, but they used to tire. I remember making a large Liberty Loan poster two weeks after I took off my glasses, and I was amazed to find I could make the whole layout almost perfectly without a ruler, just as well as with my glasses. When I came to true it up with the ruler I found only the last row of letters a bit out of line at the very end. I couldn't have done better with glasses. However this wasn't fine work. About the same time I sewed a hem at night in a black dress, using a fine needle. I suffered a little for this, but not much. I used to practice my exercises at that time and palm faithfully. Now I don't have to practice, or palm; I feel no discomfort, and I am absolutely unsparing in my use of my eyes. I do everything I want to with them. I shirk nothing, pass up no opportunity of using them. From the first I did all my school work, read every notice, wrote all that was necessary, neglected nothing. Everything I was called upon to do I attempted. For instance, I had to read President Wilson's "Fourteen Points" in the assembly room without notice in a poor light—unusual wording, too,—and I read it unhesitatingly. I have yet to fail to make good.

Now to sum up the school end of it, I used to get headaches at the end of the month from adding columns of figures necessary to reports, etc. Now I do not get them. I used to get flustered when people came into my room. Now I do not; I welcome them. It is a pleasant change to feel this way. And—I suppose this is most important really, though I think of it last—I teach better. I know how to get at the mind and how to make the children see things in perspective. I gave a lesson on the horizontal cylinder recently, which, you know, is not a thrillingly interesting subject, and it was a remarkable lesson in its results and in the grip it got on every girl in the room, stupid and bright. What you have taught me makes me use the memory and imagination more, especially the latter, in teaching.

Now, to sum up the effect of being cured upon my own mind. I am more direct, more definite, less diffused, less vague. In short, I am conscious of being better centered. It is central fixation of the mind. I saw this in your latest paper, but I realized it long ago and knew what to call it.

ARMY OFFICER CURES HIMSELF.

An engineer, fifty-one years of age, had worn glasses since 1896, first for astigmatism, getting stronger ones every couple of years, and then for astigmatism and presbyopia. At one time he asked his oculist and several opticians if the eyes could not be strengthened by exercises, so as to

make glasses unnecessary, but they said: "No. Once started on glasses you must keep to them." When the war broke out he was very nearly disqualified for service in the Expeditionary Forces by his eyes, but managed to pass the required tests, after which he was ordered abroad as an officer in the Gas Service. While there he saw in the *Literary Digest* of May 2, 1918, a reference to my method of curing defective eyesight without glasses, and on May 11 he wrote to me in part as follows:

At the front I found glasses a horrible nuisance, and they could not be worn with gas masks. After I had been about six months abroad I asked an officer of the Medical Corps about going without glasses. He said I was right in my ideas and told me to try it. The first week was awful, but I persisted and only wore glasses for reading and writing. I stopped smoking at the same time to make it easier on my nerves.

I brought to France two pairs of bow spectacles and two extra lenses for repairs. I have just removed the extra piece for near vision from these extra lenses and had them mounted as pince-nez, with shur-on mounts, to use for reading and writing, so that the only glasses I now use are for astigmatism, the age lens being off. Three months ago I could not read ordinary head-line type in newspapers without glasses. Today, with a good light, I can read ordinary book type (18 point), held at a distance of eighteen inches from my eyes. Since the first week in February, when I discarded my glasses, I have had no headaches, stomach trouble, or dizziness, and am in good health generally. My eyes are coming back, and I believe it is due to sticking it out. I ride considerably in automobiles and trams, and somehow the idea has crept into my mind that after every trip my eyes are stronger. This, I think, is due to the rapid changing of focus in viewing scenery going by so fast.

Other men have tried this plan on my advice, but gave it up after two or three days. Yet, from what they say, I believe they were not so uncomfortable as I was for a week or ten days.

I believe most people wear glasses because they "coddle" their eyes.

How to Use the Snellen Test Card
FOR THE
Prevention and Cure of Imperfect Sight in Children

The Snellen Test Card is placed permanently upon the wall of the classroom, and every day the children silently read the smallest letters they can see from their seats with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. This takes no appreciable amount of time, and is sufficient to improve the sight of all children in one week and to cure all errors of refraction after some months, a year, or longer.

Children with markedly defective vision should be encouraged to read the card more frequently.

Records may be kept as follows:

John Smith, 10, Sept. 15, 1918.
R. V. (vision of the right eye) 20/40.
L. V. (vision of the left eye) 20/20.

John Smith, 11, Jan. 1, 1919.
R. V. 20/30.
L. V. 20/15.

The numerator of the fraction indicates the distance of the test card from the pupil; the denominator denotes the line read, as designated by the figures printed above the middle of each line of the Snellen Test Card.

A certain amount of supervision is absolutely necessary. At least once a year some one who understands the method should visit each classroom for the purpose of answering questions, encouraging the teachers to continue the use of the method, and making a report to the proper authorities.

It is not necessary that either the inspector, the teachers, or the children, should understand anything about the physiology of the eye.

SCHOOL NUMBER

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I AUGUST, 1919 No. 2

How to Use the Snellen Test Card

A House Built on Sand

The Prevention of Myopia
Methods That Failed and
A Method That Succeeded

The Story of Emily

$2.00 per year **20 cents per copy**
Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I AUGUST, 1919 No. 2

A HOUSE BUILT ON SAND

That the results of the present method of treating defects of vision are far from satisfactory is something which no one would attempt to deny. It is well known that many patients wander from one specalist to another, seeking vainly for relief, while others give up in despair and either bear their visual ills as best they may without assistance, or else resort to Christian Science, mental science, osteopathy, physical culture, or some of the other healing cults to which the incompetence of orthodox medicine has given birth. The specialists themselves, having daily to handle each other's failures, are scarcely better satisfied. Privately they criticize each other with great asperity and freedom, and publicly they indulge in much speculation as to the underlying causes of this deplorable state of affairs.

At the recent meeting of the Ophthalmological Section of the American Medical Association, Dr. E. J. Gardiner, of Chicago, in a paper on *The Present Status of Refraction Work*,[1] finds that ignorance is responsible for the largest quota of failure to get satisfactory results from what he calls the "rich heritage" of ophthalmic science, but that a considerable percentage must be attributed to other causes. Among these causes he enumerates a too great dependence on measuring devices, the delegation of refraction work to assistants, and the tendency to eliminate cycloplegics, in

[1] For reports of all the papers quoted, see Jour. Am. Med. Assn, June 21, 1919.

deference to the prejudices of patients who have a natural objection to being incapacitated by "drops."

On the same occasion, Dr. Samuel Theobald, of Johns Hopkins University, noted a tendency to "minimize the importance of muscular anomalies" as an important cause of many failures to give relief to eye patients. Among cases that have come into his hands after glasses had been prescribed by other ophthalmologists he has often found that "though great pains had been taken to correct even minor faults of refraction, grave muscular errors had been entirely overlooked." From this fact and from the small number of latent muscular defects noted in the hospital reports which he has examined, the conclusion seems to him inevitable that such faults are in large measure ignored.

Dr. Walter Pyle, of Philadelphia, laid stress on "necessary but often neglected refinements in examination of ocular refraction." "Long practice, infinite care and attention to finer details," he said, "are imperative requisites, since a slight fault in the correction of a refractive error aggravates rather than relieves the accompanying asthenopic symptoms." This care, he says, must be exercised not only by the oculist but by the optician, and to the end that the latter may be inspired to do his part, he suggests that the oculist provide himself with the means for keeping tabs on him in the form of a mechanical lens measure, axis finder and centering machine.

Dr. Charles Emerson, of the Indiana University School of Medicine, suggested a closer co-operation between the ophthalmologist and the physician, as there were many patients who could not be helped by the ophthalmologist alone.

The fitting of glasses by opticians is usually condemned without qualification, but in the discussion which followed these papers, Dr. Dunbar Roy, of Atlanta, said that the optician, just because he does not use cycloplegics, frequently fits patients with comfortable glasses where the ophthalmologist has failed. When a patient needs glasses, said Dr. Roy, he needs them when his eyes are in their natural or normal condition and not when the muscle of accommodation is partially paralyzed. Even the heavy frames used in the adjustment of trial lenses were not forgotten in the search for possible causes of failure, Dr. Roy

believing that the patient is often so annoyed by these contrivances that he does not know which is causing him the most discomfort, the frames or the glasses.

Nowhere in the whole discussion was there any suggestion that this great mass of acknowledged failure could possibly be due to any defect in fundamental principles. These are a "rich heritage," the usefulness of which is not to be questioned. If they do not produce satisfactory results, it must be due to their faulty application, and it is taken for granted that there are a select few who understand and are willing to take the trouble to use them properly.

The simple fact, however, is that the fitting of glasses can never be satisfactory. The refraction of the eye is continually changing.[1] Myopia, hypermetropia and astigmatism come and go, diminish and increase, and the same adjustment of glasses cannot suit the affected eyes at all times. One may be able, in many cases, to make the patient comfortable, to improve his sight, or to relieve nervous symptoms; but there will always be a considerable number of persons who get little or no help from glasses, while practically everyone who wears them is more or less dissatisfied. The optician may succeed in making what is considered to be a satisfactory adjustment, and the most eminent ophthalmologist may fail. I personally know of one specialist, a man of international reputation, who fitted a patient sixty times with glasses without affording him the slightest relief.

And even when the glasses do what is expected of them they do very little. Considering the nature of the superstructure built on the foundation of Donders, and the excellent work being done by leading men, Dr. Gardiner thinks the present status of refraction work might be deemed eminently satisfactory if it were not for the great amount of bad and careless work being done; but I do not consider it satisfactory when all we can do for people with imperfect sight is to give them eye crutches that do not even check the progress of the trouble, when the only help we can offer to the millions of myopic and hypermetropic and

[1] Bates: The Imperfect Sight of the Normal Eye, N. Y. Med. Jour., Sept. 8, 1917.

astigmatic and squinting children in our schools is to put spectacles on them. If this is the best that ophthalmology can do after building for three-quarters of a century upon the foundation of Donders, is it not time that we began to examine that foundation of which Dr. Gardiner boasts that "not one stone has been removed"? Instead of seeking the cause of our failure to accomplish even the little we claim to be able to do in the ignorance and carelessness of the average practitioner, great as that ignorance and carelessness often are; in the neglect of cycloplegics and the refinements of lens adjustment; in the failure to detect latent muscular anomalies; in the absence of co-operation between specialist and general practitioner: would it not be wiser to examine the foundation of our superstructure and see whether it is of stone or of sand?

THE PREVENTION OF MYOPIA

Methods That Failed

The publication in 1867 by Professor Hermann Cohn of Breslau of a study of the eyes of ten thousand school children first called general attention to the fact that while myopia is seldom found in the pre-school age, the defect increases steadily both in percentage of cases and in degree during the educational period. Professor Cohn's investigations were repeated in all the advanced countries, and his observations, with some difference in percentages, were everywhere confirmed. The conditions were unanimously attributed to the excessive use of the eyes for near work, and as it was impossible to abandon the educational system, attempts were made to minimize the supposed evil effects of the reading, writing and other near work which it demanded. Careful and detailed rules were laid down by various authorities as to the size of type to be used in school books, the length of the lines, their distance apart, the distance at which the book should be held, the amount and arrangement of the light, the construction of the desks, the length of time the eyes might be used without a change of focus, etc. Face rests were even devised to hold the eyes at the prescribed distance from the desk and to prevent stooping, which was supposed to cause congestion of the

eyeball and thus to encourage elongation. The Germans, with characteristic thoroughness, actually used these instruments of torture, Cohn never allowing his children to write without one, "even at the best possible desk." [1]

The results of these preventive measures were disappointing. Some observers reported a slight decrease in the percentage of myopia in schools in which the prescribed reforms had been made; but on the whole, as Risley has observed in his discussion of the subject in Norris and Oliver's *System of Diseases of the Eye*, "the injurious effects of the educational process were not noticeably arrested."

"It is a significant, though discouraging fact," he continues, "that the increase, as found by Cohn, both in the percentage and in the degree of myopia, had taken place in those schools where he had especially exerted himself to secure the introduction of hygienic reforms, and the same is true of the observations of Just, who had examined the eyes of twelve hundred and twenty-nine of the pupils of the two High Schools of Zittau, in both of which the hygienic conditions were all that could be desired. He found, nevertheless, that the excellent arrangements had not in any degree lessened the percentage of increase in myopia. It became necessary, therefore, to look beyond faulty hygienic environments for the cause of the pathological states represented by myopia." [2]

With the passage of time further evidence to the same effect has steadily accumulated. In an investigation in London, for instance, in which the schools were carefully selected to reveal any difference that might arise from the various influences, hygienic, social and racial, to which the children were subjected, the proportion of myopia in the best lighted and ventilated school of the group was actually found to be higher than in the one where these conditions were worst.[3] It has also been found that there is just as much myopia in schools where little near work is done as in those in which the demands upon the accommodative power of the eye are greater, while in any case it is only a minority of the children in any school who become myopic, although all may be exposed to practically the same eye conditions. Dr. Adolf Steiger, in his recent book on *Spherical Refraction*, bears witness, after a comprehensive

[1] The Hygiene of the Eye in Schools, English translation, edited by Turnbull, p. 127.

[2] System of Diseases of the Eye, 1897, Vol. II, p. 361.

[3] Brit. Med. Jour., June 18, 1898.

survey of the whole question, to the "absolutely negative results of school hygiene,"[1] and Dr. Sidler-Huguenin reports[2] that in the thousands of cases that have come under his care he has observed no appreciable benefit from any method of treatment at his command.

Facts of this sort have led to a modification of the myopia theory, but have produced no change in methods of myopia prevention. An hereditary tendency toward the development of the defect is now assumed by most authorities; but although no one has ever been able to offer even a plausible explanation for its supposed injuriousness, and though its restriction has been proven over and over again to be useless, near work is still generally held to be a contributing cause and ophthalmologists still go on in the same old way, trying to limit the use of the eyes at the near-point and encourage vision at the distance. It is incomprehensible that men calling themselves scientific, and having had at least a scientific training, can be so foolish. One might excuse a layman for such irrational conduct, but how men of scientific repute who are supposed to write authoritative textbooks can go on year after year copying each other's mistakes and ignoring all facts which are in conflict with them is a thing which reasonable people can hardly be expected to understand.

In 1912,[3] and a good many times since, I published the observation that myopia is always lessened when the subject strains to see at the near point, and always produced in the normal eye when the subject strains to see at the distance. These observations are of the greatest practical importance, for if they are correct, they prove our present methods of preventing myopia to be a monumental blunder. Yet no one, so far as I have heard, has taken the trouble to test their accuracy. I challenged the medical profession to produce a single exception to the statements I made in the 1912 publication, and that challenge has stood for seven years, although every member of the Ophthalmological Section of the American Medical Asso-

[1] Die Entstehung der sphärischen Refraktionen des menschlichen Auges, Berlin, 1913, p. 540.

[2] Archiv f. Augenhlk., Vol. LXXIX, 1915, translated in Archives of Ophthalmology, Vol. XLV, No. 6, November, 1916.

[3] Bates: The Cause of Myopia, N. Y. Med. Jour., March 16, 1912.

ciation must have had an opportunity to see it, and anyone who knows how to use a retinoscope could have made the necessary tests in a few minutes. If any did this, they failed to publish the results of their observations, and are, therefore, responsible for the effects of their silence. If they found that I was right and neglected to say so, they are responsible for the fact that the benefits that must ultimately result from this discovery have been delayed. If they found that I was wrong, they are responsible for any harm that may have resulted from their indifference.

THE PREVENTION AND CURE OF MYOPIA AND OTHER ERRORS OF REFRACTION

A Method That Succeeded

You cannot see anything with perfect sight unless you have seen it before. When the eye looks at an unfamiliar object it always strains more or less to see that object, and an error of refraction is always produced. When children look at unfamiliar writing, or figures, on the blackboard, distant maps, diagrams, or pictures, the retinoscope always shows that they are myopic, though their vision may be under other circumstances absolutely normal. The same thing happens when adults look at unfamiliar distant objects. When the eye regards a familiar object, however, the affect is quite otherwise. Not only can it be regarded without strain, but the strain of looking later at unfamiliar objects is lessened.

This fact furnishes us with a means of overcoming the mental strain to which children are subjected by the modern educational system. It is impossible to see anything perfectly when the mind is under a strain, and if children become able to relax when looking at familiar objects, they become able, sometimes in an incredibly brief space of time, to maintain their relaxation when looking at unfamiliar objects.

I discovered this fact while examining the eyes of 1,500 school children at Grand Forks, N. D., in 1903.[1] In many

[1] Bates: The Prevention of Myopia in School Children, N. Y. Med. Jour., July 29, 1911.

cases children who could not read all of the letters on the Snellen test card at the first test read them at the second or third test. After a class had been examined the children who had failed would sometimes ask for a second test, and then it often happened that they would read the whole card with perfect vision. So frequent were these occurrences that there was no escaping the conclusion that in some way the vision was improved by reading the Snellen test card. In one class I found a boy who at first appeared to be very myopic, but who, after a little encouragement, read all the letters on the test card. The teacher asked me about this boy's vision, because she had found him to be very "near-sighted." When I said that his vision was normal she was incredulous, and suggested that he might have learned the letters by heart, or been prompted by another pupil. He was unable to read the writing or figures on the blackboard, she said, or to see the maps, charts, and diagrams on the walls, and did not recognize people across the street. She asked me to test his sight again, which I did, very carefully, under her supervision, the sources of error which she had suggested being eliminated. Again the boy read all the letters on the card. Then the teacher tested his sight. She wrote some words and figures on the blackboard and asked him to read them. He did so correctly. Then she wrote additional words and figures, which he read equally well. Finally she asked him to tell the hour by the clock twenty-five feet distant, which he did correctly. It was a dramatic situation, both the teacher and the children being intensely interested. Three other cases in the class were similar, their vision, which had previously been very defective for distant objects, becoming normal in the few moments devoted to testing their eyes. It is not surprising that after such a demonstration the teacher asked to have a Snellen test card placed permanently in the room. The children were directed to read the smallest letters they could see from their seats at least once every day, with both eyes together and with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. Those whose vision was defective were encouraged to read it more frequently, and in fact needed no encouragement to do so after they found that the practice helped them to see the blackboard, and

stopped the headaches, or other discomfort, previously resulting from the use of their eyes.

In another class of forty children, between six and eight, thirty of the pupils gained normal vision while their eyes were being tested. The remainder were cured later under the supervision of the teacher by exercises in distant vision with the Snellen card. This teacher had noted every year for fifteen years that at the opening of the school in the fall all the children could see the writing on the blackboard from their seats, but before school closed the following spring all of them without exception complained that they could not see it at a distance of more than ten feet. After learning of the benefits to be derived from the daily practice of distant vision with familiar objects as the points of fixation, this teacher kept a Snellen test card continually in her classroom and directed the children to read it every day. The result was that for eight years no more of the children under her care acquired defective eyesight.

This teacher had attributed the invariable deterioration in the eyesight of her charges during the school year to the fact that her classroom was in the basement and the light poor. But teachers with well-lighted classrooms had the same experience, and after the Snellen test card was introduced into both the well-lighted and the poorly lighted rooms, and the children read it every day, the deterioration of their eyesight not only ceased, but the vision of all improved. Vision which had been below normal improved, in most cases, to normal, while children who already had normal sight, usually reckoned at 20/20, became able to read 20/15 or 20/10. And not only was myopia cured, but the vision for near objects was improved.

At the request of the superintendent of the schools of Grand Forks, Mr. J. Nelson Kelly, the system was introduced into all the schools of the city and was used continuously for eight years, during which time it reduced myopia among the children, which I found at the beginning to be about six per cent, to less than one per cent.

In 1911 and 1912 the same system was introduced into some of the schools of New York City[1] with an attendance of about ten thousand children. Many of the teachers neglected to use the cards, being unable to believe that such

[1] Bates: Myopia Prevention by Teachers, N. Y. Med. Jour., Aug. 30, 1913.

a simple method, and one so entirely at variance with previous teaching on the subject, could accomplish the desired results. Others kept the cards in a closet except when they were needed for the daily eye drill, lest the children should memorize them. Thus they not only put an unnecessary burden upon themselves, but did what they could to defeat the purpose of the system, which is to give the children daily exercise in distant vision with a familiar object as the point of fixation. A considerable number, however, used the system intelligently and persistently, and in less than a year were able to present reports shownig that of three thousand children with imperfect sight over one thousand had obtained normal vision by its means. Some of these children, as in the case of the children of Grand Forks, were cured in a few minutes. Many of the teachers were also cured, some of them very quickly. In some cases the results of the system were so astonishing as to be scarcely credible.

In a class of mental defectives, where the teacher had kept records of the eyesight of the children for several years, it had been invariably found that their vision grew steadily worse as the term advanced. As soon as the Snellen test card had been introduced, however, they began to improve. Then came a doctor from the Board of Health who tested the eyes of the children and put glasses on all of them, even those whose sight was fairly good. The use of the card was then discontinued, as the teacher did not consider it proper to interfere while the children were wearing glasses prescribed by a physician. Very soon, however, the children began to lose, break, or discard, their glasses. Some said that the spectacles gave them headaches, or that they felt better without them. In the course of a month or so most of the aids to vision which the Board of Health had supplied had disappeared. The teacher then felt herself at liberty to resume the use of the Snellen test card. Its benefits were immediate. The eyesight and the mentality of the children improved simultaneously, and soon they were all drafted into the regular classes, because it was found that they were making the same progress in their studies as the other children were.

Another teacher reported an equally interesting experience. She had a class of children who did not fit into

the other grades. Many of them were backward in their studies. Some were persistent truants. All of them had defective eyesight. A Snellen test card was hung in the classroom where all the children could see it, and the teacher carried out my instructions literally. At the end of six months all but two had been cured and these had improved very much, while the worst incorrigible and the worst truant had become good students. The incorrigible, who had previously refused to study, because, he said, it gave him a headache to look at a book, or at the blackboard, found out that the test card, in some way, did him a lot of good; and although the teacher had asked him to read it but once a day, he read it whenever he felt uncomfortable. The result was that in a few weeks his vision had become normal and his objection to study had disappeared. The truant had been in the habit of remaining away from school two or three days every week, and neither his parents nor the truant officer had been able to do anything about it. To the great surprise of his teacher he never missed a day after having begun to read the Snellen test card. When she asked for an explanation he told her that what had driven him away from school was the pain that came in his eyes whenever he tried to study, or to read the writing on the blackboard. After reading the Snellen test card, he said, his eyes and head were rested and he was able to read without any discomfort.

To remove any doubts that might arise as to the cause of the improvement noted in the eyesight of the children comparative tests were made with and without cards. In one case six pupils with defective sight were examined daily for one week without the use of the test card. No improvement took place. The card was then restored to its place and the group was instructed to read it every day. At the end of a week all had improved and five were cured. In the case of another group of defectives the results were similar. During the week that the card was not used no improvement was noted, but after a week of exercises in distant vision with the card all showed marked improvement, and at the end of a month all were cured. In order that there might be no question as to the reliability of the records of the teachers some of the principals asked the Board of Health to send an inspector to test the vision of

the pupils, and whenever this was done the records were found to be correct.

One day I visited the city of Rochester, and while there I called on the Superintendent of Public Schools and told him about my method of preventing myopia. He was very much interested and invited me to introduce it in one of his schools. I did so, and at the end of three months a report was sent to me showing that the vision of all the children had improved, while quite a number of them had obtained perfect sight in both eyes.

The method has been used in a number of other cities and always with the same result. The vision of all the children improved, and many of them obtained perfect sight in the course of a few minutes, days, weeks or months.

It is difficult to prove a negative proposition, but since this system improved the vision of all the children who used it, it follows that none could have grown worse. It is therefore obvious that it must have prevented myopia. This cannot be said of any method of preventing myopia in schools which had previously been tried. All other methods are based on the idea that it is the excessive use of the eyes for near work that causes myopia, and all of them have admittedly failed.

It is also obvious that the method must have prevented other errors of refraction, a problem which previously had not even been seriously considered, because hypermetropia is supposed to be congenital, and astigmatism was until recently supposed also to be congenital in the great majority of cases. Anyone who knows how to use a retinoscope may, however, demonstrate in a few minutes that both of these conditions are acquired; for no matter how astigmatic or hypermetropic an eye may be, its vision always becomes normal when it looks at a blank surface without trying to see. It may also be demonstrated that when children are learning to read, write, draw, sew, or to do anything else that necessitates their looking at unfamiliar objects at the near-point, hypermetropia, or hypermetropic astigmatism, is always produced. The same is true of adults. These facts have not been reported before, so far as I am aware, and they strongly suggest that children need, first of all, eye education. They must be able to look at strange letters or objects at the near-point without strain

before they can make much progress in their studies, and in every case in which the method has been tried it has proven that this end is attained by daily exercise in distant vision with the Snellen test card. When their distant vision has been improved by this means children invariably become able to use their eyes without strain at the near-point.

The method succeeded best when the teacher did not wear glasses. In fact, the effect upon the children of a teacher who wears glasses is so detrimental that no such person should be allowed to be a teacher, and since errors of refraction are curable, such a ruling would work no hardship on anyone. Not only do children imitate the visual habits of a teacher who wears glasses, but the nervous strain of which the defective sight is an expression produces in them a similar condition. In classes of the same grade, with the same lighting, the sight of children whose teachers did not wear glasses has always been found to be better than the sight of children whose teachers did wear them. In one case I tested the sight of children whose teacher wore glasses and found it very imperfect. The teacher went out of the room on an errand, and after she had gone I tested them again. The results were very much better. When the teacher returned she asked about the sight of a particular boy, a very nervous child, and as I was proceeding to test him she stood before him and said, "Now, when the doctor tells you to read the card, do it." The boy couldn't see anything. Then she went behind him, and the effect was the same as if she had left the room. The boy read the whole card.

Still better results would be obtained if we could reorganize the educational system on a rational basis. Then we might expect a general return of that primitive acuity of vision which we marvel at so greatly when we read about it in the memoirs of travellers. But even under existing conditions it has been proven beyond the shadow of a doubt that errors of refraction are no necessary part of the price we must pay for education.

There are at least ten million children in the schools of the United States who have defective sight. This condition prevents them from taking full advantage of the educational opportunities which the State provides. It undermines their

health and wastes the taxpayers' money. If allowed to continue, it will be an expense and a handicap to them throughout their lives. In many cases it will be a source of continual misery and suffering. And yet practically all of these cases could be cured and the development of new ones prevented by the daily reading of the Snellen test card.

Why should our children be compelled to suffer and wear glasses for want of this simple measure of relief? It costs practically nothing. In fact, it would not be necessary, in some cases, as in the schools of New York City, even to purchase the Snellen test cards, as they are already being used to test the eyes of the children. Not only does it place practically no additional burden upon the teachers, but, by improving the eyesight, health, disposition and mentality of their pupils, it greatly lightens their labors. No one would venture to suggest, further, that it could possibly do any harm. Why, then, should there be any delay about introducing it into the schools? If there is still thought to be need for further investigation and discussion, we can investigate and discuss just as well after the children get the cards as before, and by adopting that course we will not run the risk of needlessly condemning another generation to that curse which heretofore has always dogged the footsteps of civilization, namely, defective eyesight. I appeal to all who read these lines to use whatever influence they possess toward the attainment of this end.

THE STORY OF EMILY

The efficacy of the method of treating imperfect sight without glasses has been demonstrated in thousands of cases, not only in my own practice but in that of many persons of whom I may not even have heard; for almost all patients when they are cured proceed to cure others. At a social gathering one evening a lady told me that she had met a number of my patients; but when she mentioned their names, I found that I did not remember any of them, and said so.

"That is because you cured them by proxy," she said. "You didn't directly cure Mrs. Jones or Mrs. Brown, but you cured Mrs. Smith and Mrs. Smith cured the other ladies. You didn't treat Mr. and Mrs. Simpkins, or Mr.

Simpkins' mother and brother, but you may remember that you cured Mr. Simpkins' boy of a squint, and he cured the rest of the family."

In schools where the Snellen test card was used to prevent and cure imperfect sight, the children, after they were cured themselves, often took to the practice of ophthalmology with the greatest enthusiasm and success, curing their fellow students, their parents and their friends. They made a kind of game of the treatment, and the progress of each school case was watched with the most intense interest by all the children. On a bright day, when the patients saw well, there was great rejoicing, and on a dark day there was corresponding depression. One girl cured twenty-six children in six months; another cured twelve in three months; a third developed quite a varied ophthalmological practice and did things of which older and more experienced practitioners might well have been proud. Going to the school which she attended one day, I asked this girl about her sight, which had been very imperfect. She replied that it was now very good, and that her headaches were quite gone. I tested her sight and found it normal. Then another child whose sight had also been very poor spoke up.

"I can see all right too," she said. "Emily"—indicating girl No. 1—"cured me."

"Indeed!" I replied. "How did she do that?"

The second girl explained that Emily had had her read the card, which she could not see at all from the back of the room, at a distance of a few feet. The next day she had moved it a little further way, and so on, until the patient was able to read it from th back of the room, just as the other children did. Emily now told her to cover the right eye and read the card with her left, and both girls were considerably upset to find that the uncovered eye was apparently blind. The school doctor was consulted and said that nothing could be done. The eye had been blind from birth and no treatment would do any good.

Nothing daunted, however, Emily undertook the treatment. She told the patient to cover her good eye and go up close to the card, and at a distance of a foot or less it was found that she could read even the small letters. The little practitioner then proceeded confidently as with the other eye, and after many months of practice the patient

became the happy possessor of normal vision in both eyes. The case had, in fact, been simply one of high myopia, and the school doctor, not being a specialist, had not detected the difference between this condition and blindness.

In the same classroom, there had been a little girl with congenital cataract, but on the occasion of my visit the defect had disappeared. This, too, it appeared, was Emily's doing. The school doctor had said that there was no help for this eye except through operation, and as the sight of the other eye was pretty good, he fortunately did not think it necessary to urge such a course. Emily accordingly took the matter in hand. She had the patient stand close to the card, and at that distance it was found that she could not see even the big C. Emily now held the card between the patient and the light and moved it back and forth. At a distance of three or four feet this movement could be observed indistinctly by the patient. The card was then moved farther away, until the patient became able to see it move at ten feet and to see some of the larger letters indistinctly at a less distance. Finally, after six months, she became able to read the card with the bad eye as well as with the good one. After testing her sight and finding it normal in both eyes, I said to Emily:

"You are a splendid doctor. You beat them all. Have you done anything else?"

The child blushed, and turning to another of her classmates, said:

"Mamie, come here."

Mamie stepped forward and I looked at her eyes. There appeared to be nothing wrong with them.

"I cured her," said Emily.

"What of?" I inquired.

"Cross eyes," replied Emily.

"How," I asked, with growing astonishment.

Emily described a procedure very similar to that adopted in the other cases. Finding that the sight of the crossed eye was very poor, so much so, indeed, that poor Mamie could see practically nothing with it, the obvious course of action seemed to her to be the restoration of its sight; and, never having read any medical literature she did not know that this was impossible. So she went to it. She had Mamie cover her good eye and practice the bad one at home and

at school, until at last the sight became normal and the eye straight. The school doctor had wanted to have the eye operated upon, I was told, but fortunately Mamie was "scared" and would not consent. And here she was with two perfectly good, straight eyes.

"Anything else?" I inquired, when Mamie's case had been disposed of. Emily blushed again, and said:

"Here's Rose. Her eyes used to hurt her all the time, and she couldn't see anything on the blackboard. Her headaches used to be so bad that she had to stay away from school every once in a while. The doctor gave her glasses; but they didn't help her, and she wouldn't wear them. When you told us the card would help our eyes I got busy with her. I had her read the card close up, and then I moved it farther away, and now she can see all right, and her head doesn't ache any more. She comes to school every day, and we all thank you very much."

This was a case of compound hypermetropic astigmatism.

Such stories might be multiplied indefinitely. Emily's astonishing record cannot, it is true, be duplicated, but lesser cures by cured patients have been very numerous and serve to show that the benefits of the method of preventing and curing defects of vision in the schools which is presented in this number of BETTER EYESIGHT would be far-reaching. Not only errors of refraction would be cured, but many more serious defects; and not only the children would be helped, but their families and friends also.

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $3, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

BE FRIENDLY—SUBSCRIBE

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I SEPTEMBER, 1919 No. 3

The Flashing Cure

Vision and Education

The Doctor's Story

Lying a Cause of Myopia

Cured in Fifteen Minutes

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

THE FLASHING CURE

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. 1 SEPTEMBER, 1919 No. 3

VISION AND EDUCATION

Poor sight is admitted to be one of the most fruitful causes of retardation in the schools. It is estimated[1] that it may reasonably be held responsible for a quarter of the habitually "left-backs," and it is commonly assumed that all this might be prevented by suitable glasses.

There is much more involved in defective vision, however, than mere inability to see the blackboard, or to use the eyes without pain or discomfort. Defective vision is the result of an abnormal condition of the mind, and when the mind is in an abnormal condition it is obvious that none of the processes of education can be conducted with advantage. By putting glasses upon a child we may, in some cases, neutralize the effect of this condition upon the eyes and by making the patient more comfortable may improve his mental faculties to some extent, but we do not alter fundamentally the condition of the mind and by confirming it in a bad habit we may make it worse.

It can easily be demonstrated that among the faculties of the mind which are impaired when the vision is impaired is the memory; and as a large part of the educational process consists of storing the mind with facts, and all the

[1] School Health News, published by the Department of Health of New York City, February, 1919.

other mental processes depend upon one's knowledge of facts, it is easy to see how little is accomplished by merely putting glasses on a child that has "trouble with its eyes." The extraordinary memory of primitive people has been attributed to the fact that owing to the absence of any convenient means of making written records they had to depend upon their memories, which were strengthened accordingly; but in view of the known facts about the relation of memory to eyesight it is more reasonable to suppose that the retentive memory of primitive man was due to the same cause as his keen vision, namely, a mind at rest.

The primitive memory as well as primitive keenness of vision have been found among civilized people, and if the necessary tests had been made it would doubtless have been found that they always occur together, as they did in a case which recently came under my observation. The subject was a child of ten with such marvelous eyesight that she could see the moons of Jupiter with the naked eye, a fact which was demonstrated by her drawing a diagram of these satellites which exactly corresponded to the diagrams made by persons who had used a telescope. Her memory was equally remarkable. She could recite the whole content of a book after reading it, as Lord Macauley is said to have done, and she learned more Latin in a few days without a teacher than her sister who had six diopters of myopia had been able to do in several years. She remembered five years afterward what she ate at a restaurant, she recalled the name of the waiter, the number of the building and the street in which it stood. She also remembered what she wore on this occasion and what every one else in the party wore. The same was true of every other event which had awakened her interest in any way, and it was a favorite amusement in her family to ask her what the menu had been and what people had worn on particular occasions.

When the sight of two persons is different it has been found that their memories differ in exactly the same degree. Two sisters, one of whom had only ordinary good vision, indicated by the formula 20/20, while the other had 20/10, found that the time it took them to learn eight verses of a poem varied in almost exactly the same ratio as their sight. The one whose vision was 20/10 learned eight verses of the poem in fifteen minutes, while the one whose vision was only 20/20 required thirty-one minutes to do the same thing. After palming the one with ordinary vision learned eight more verses in twenty-one minutes, while the one with 20/10 was only able to reduce her time by two minutes, a variation clearly within the limits of error. In other words, the mind of the latter being already in a normal or nearly normal condition, she could not improve it appreciably by palming, while the former whose mind was under a strain was able to gain relaxation, and hence improve her memory, by this means.

When the two eyes of the same person are different a corresponding difference in the memory has been noted according to whether both eyes were open, or the better eye closed. A patient with normal vision in the right eye and half-normal vision in the left when looking at the Snellen test card with both eyes open could remember a period for twenty seconds continuously, but could remember it only ten seconds when the better eye was closed. A patient with half-normal vision in the right eye and one-quarter normal in the left could remember a period for twelve seconds with both eyes open and only six seconds with better eye closed. A third patient with normal sight in the right eye and vision of one-tenth in the left could remember a period twelve seconds with both eyes open and only two seconds when the better eye was closed. In other words if the right eye is better than the left the memory is better when the right eye is open than when only the left eye is open.

Under the present educational system there is a constant effort to compel the children to remember. These efforts always fail. They spoil both the memory and the sight. The memory cannot be forced any more than the vision can be forced. We remember without effort, just as we see without effort, and the harder we try to remember or see the less we are able to do so.

The sort of things we remember are the things that interest us, and the reason children have difficulty in learning their lessons is because they are bored by them. For the same reason, among others, their eyesight becomes impaired, boredom being a condition of mental strain in which it is impossible for the eye to function normally.

Some of the various kinds of compulsion now employed in the educational process may have the effect of awakening interest. Betty Smith's interest in winning a prize, for instance, or in merely getting ahead of Johnny Jones, may have the effect of rousing her interest in lessons that have hitherto bored her, and this interest may develop into a genuine interest in the acquisition of knowledge; but this cannot be said of the various fear incentives still so largely employed by teachers. These, on the contrary, have the effect, usually, of completely paralyzing minds already benumbed by lack of interest, and the effect upon the vision is equally disastrous.

The fundamental reason, both for poor memory and poor eyesight in school children, in short, is our irrarational and unnatural educational system. Montessori has taught us that it is only when children are interested that they can learn. It is equally true that it is only when they are interested that they can see. This fact was strikingly illustrated in the case of one of the two pairs of sisters mentioned above. Phebe, of the keen eyes, who could recite whole books if she happened to be interested in them, disliked mathematics and anatomy extremely, and not only could not learn

them but became myopic when they were presented to her mind. She could read letters a quarter of an inch high at twenty feet in a poor light, but when asked to read figures one to two inches high in a good light at ten feet she miscalled half of them. When asked to tell how much 2 and 3 made, she said "4," before finally deciding on "5"; and all the time she was occupied with this disagreeable subject the retinoscope showed that she was myopic. When I asked her to look into my eye with the ophthalmoscope she could see nothing, although a much lower degree of visual acuity is required to note the details of the interior of the eye than to see the moons of Jupiter.

Short-sighted Isabel, on the contrary, had a passion for mathematics and anatomy, and excelled in those subjects. She learned to use the ophthalmoscope as easily as Phebe had learned Latin. Almost immediately she saw the optic nerve, and noted that the center was whiter than the periphery. She saw the light-colored lines, the arteries; and the darker ones, the veins; and she saw the light streaks on the blood-vessels. Some specialists never become able to do this, and no one could do it without normal vision. Isabel's vision, therefore, must have been temporarily normal when she did it. Her vision for figures, although not normal, was better than for letters.

In both these cases the ability to learn and the ability to see went hand in hand with interest. Phebe could read a photographic reduction of the Bible and recite what she had read verbatim, she could see the moons of Jupiter and draw a diagram of them afterwards, because she was interested in these things; but she could not see the interior of the eye, nor see figures even half as well as she saw letters, because these things bored her. When, however, it was suggested to her that it would be a good joke to surprise her teachers, who were always reproaching her for her backwardness in mathematics, by taking a high mark

in a coming examination, her interest in the subject awakened and she contrived to learn enough to get seventy-eight per cent. In Isabel's case letters were antagonistic. She was not interested in most of the subjects with which they dealt and, therefore, she was backward in those subjects and had become habitually myopic. But when asked to look at objects which aroused an intense interest her vision became normal.

When one is not interested, in short, one's mind is not under control, and without mental control one can neither learn nor see. Not only the memory but all other mental faculties are improved when the eyesight becomes normal. It is a common experience with patients cured of defective sight to find that their ability to do their work has improved.

The teacher whose letter was quoted in the first issue of BETTER EYESIGHT testified that after gaining perfect eyesight she "knew better how to get at the minds of the pupils,' was "more direct, more definite, less diffused, less vague," possessed, in fact, "central fixation of the mind." In another letter she said, "The better my eyesight becomes the greater is my ambition. On the days when my sight is best I have the greatest anxiety to do things."

Another teacher reports that one of her pupils used to sit doing nothing all day long and apparently was not interested in anything. After the test card was introduced into the classroom and his sight improved, he became anxious to learn, and speedily developed into one of the best students in the class. In other words his eyes and his mind became normal together.

A bookkeeper nearly seventy years of age who had worn glasses for forty years found after he had gained perfect sight without glasses that he could work more rapidly and accurately and with less fatigue than ever in his life before. During busy seasons, or when short of help, he has worked for some weeks at a time from 7 a. m. until 11 p. m.,

and he reports that he felt less tired at night after he was through than he did in the morning when he started. Previously, although he had done more work than any other man in the office, it always tired him very much. He also noticed an improvement in his temper. Having been so long in the office and knowing so much more about the business than his fellow employees, he was frequently appealed to for advice. These interruptions, before his sight became normal, were very annoying to him and often caused him to lose his temper. Afterward, however, they caused him no irritation whatever. In the case of another patient whose story is given elsewhere symptoms of insanity were relieved when the vision became normal.

From all these facts it will be seen that the problems of vision are far more intimately associated with the problems of education than we had supposed, and that they can by no means be solved by putting concave, or convex, or astigmatic lenses before the eyes of the children.

THE DOCTOR'S STORY

One of the most striking cases of the relation of mind to vision that ever came to my attention was that of a physician whose mental troubles, at one time so serious that they suggested to him the idea that he might be going insane, were completely relieved when his sight became normal. He had been seen by many eye and nerve specialists before he came to me and consulted me at last, not because he had any faith in my methods, but because nothing else seemed to be left for him to do. He brought with him quite a collection of glasses prescribed by different men, no two of them being alike. He had worn glasses, he told me, for many months at a time without benefit, and then he had left them off and had been apparently no worse. Outdoor life had also failed to help him. On the

advice of some prominent neurologists he had even given up his practice for a couple of years to spend the time upon a ranch, but the vacation had done him no good.

I examined his eyes and found no organic defects and no error of refraction. Yet his vision with each eye was only three-fourths of the normal, and he suffered from double vision and all sorts of unpleasant symptoms. He used to see people standing on their heads, and little devils dancing on the tops of the high buildings. He also had other illusions too numerous to mention in a short paper. At night his sight was so bad that he had difficulty in finding his way about, and when walking along a country road he believed that he saw better when he turned his eyes far to one side and viewed the road with the side of the retina instead of with the center. At variable intervals, without warning and without loss of consciousness, he had attacks of blindness. These caused him great uneasiness, for he was a surgeon with a large and lucrative practice, and he feared that he might have an attack while operating.

His memory was very poor. He could not remember the color of the eyes of any member of his family, although he had seen them all daily for years. Neither could he recall the color of his house, the number of rooms on the different floors, or other details. The faces and names of patients and friends he recalled with difficulty, or not at all.

His treatment proved to be very difficult, chiefly because he had an infinite number of erroneous ideas about physiological optics in general and his own case in particular, and insisted that all these should be discussed; while these discussions were going on he received no benefit. Every day for hours at a time over a long period he talked and argued. Never have I met a person whose logic was so wonderful, so apparently unanswerable, and yet so utterly wrong.

His eccentric fixation was of such high degree that when he looked at a point forty-five degrees to one side of the big C on the Snellen test card, he saw the letter just as black as when he looked directly at it. The strain to do this was terrific, and produced much astigmatism; but the patient was unconscious of it, and could not be convinced that there was anything abnormal in the symptom. If he saw the letter at all, he argued, he must see it as black as it really was, because he was not color-blind. Finally he became able to look away from one of the smaller letters on the card and see it worse than when he looked directly at it. It took eight or nine months to accomplish this, but when it had been done the patient said that it seemed as if a great burden had been lifted from his mind. He experienced a wonderful feeling of rest and relaxation throughout his whole body.

When asked to remember black with his eyes closed and covered he said he could not do so, and he saw every color but the black which one ought normally to see when the optic nerve is not subject to the stimulus of light. He had, however, been an enthusiastic football player at college, and he found at last that he could remember a black football. I asked him to imagine that this football had been thrown into the sea and that it was being carried outward by the tide, becoming constantly smaller but no less black. This he was able to do, and the strain floated with the football, until, by the time the latter had been reduced to the size of a period in a newspaper, it was entirely gone. The relief continued as long as he remembered the black spot, but as he could not remember it all the time, I suggested another method of gaining permanent relief. This was to make his sight voluntarily worse, a plan against which he protested with considerable emphasis.

"Good heavens!" he said, "Is not my sight bad enough without making it worse."

After a week of argument, however, he consented to try the method, and the result was extremely satisfactory. After he had learned to see two or more lights where there was only one, by straining to see a point above the light while still trying to see the light as well as when looking directly at it, he became able to avoid the unconscious strain that had produced his double and multiple vision and was not troubled by these superfluous images any more. In a similar manner other illusions were prevented.

One of the last illusions to disappear was his belief that an effort was required to remember black. His logic on this point was overwhelming, but after many demonstrations he was convinced that no effort was required to let go, and when he realized this, both his vision and his mental condition immediately improved.

He finally became able to read 20/10 or more, and although more than fifty-five years of age, he also read diamond type at from six to twenty-four inches. His night blindness was relieved, his attacks of day blindness ceased, and he told me the color of the eyes of his wife and children. One day he said to me:

"Doctor, I thank you for what you have done for my sight; but no words can express the gratitude I feel for what you have done for my mind."

Some years later he called with his heart full of gratitude, because there had been no relapse.

LYING A CAUSE OF MYOPIA

I may claim to have discovered the fact that telling lies is bad for the eyes. Whatever bearing this circumstance may have upon the universality of defects of vision, it can easily be demonstrated that it is impossible to say what is not true, even with no intent to deceive, or even to imagine a falsehood, without producing an error of refraction.

If a patient can read all the small letters on the bottom line of the test card, and either deliberately or carelessly miscalls any of them, the retinoscope will indicate an error of refraction. In numerous cases patients have been asked to state their ages incorrectly, or to try to imagine that they were a year older, or a year younger, than they actually were, and in every case when they did this the retinoscope indicated an error of refraction. A patient twenty-five years old had no error of refraction when he looked at a blank wall without trying to see; but if he said he was twenty-six, or if someone else said he was twenty-six, or if he tried to imagine that he was twenty-six, he became myopic. The same thing happened when he stated or tried to imagine that he was twenty-four. When he stated or remembered the truth his vision was normal, but when he stated or imagined an error he had an error of refraction.

Two little girl patients arrived one after the other one day, and the first accused the second of having stopped at Huyler's for an ice-cream soda, which she had been instructed not to do, being somewhat too much addicted to sweets. The second denied the charge, and the first, who had used the retinoscope and knew what it did to people who told lies, said:

"Do take the retinoscope and find out."

"I followed the suggestion, and having thrown the light into the second child's eyes, I asked:

"Did you go to Huyler's?"

"Yes," was the response, and the retinoscope indicated no error of refraction.

"Did you have an ice-cream soda?"

"No," said the child; but the tell-tale shadow moved in a direction opposite to that of the mirror, showing that she had become myopic and was not telling the truth.

The child blushed when I told her this and acknowledged that the retinoscope was right, for she had heard of the

ways of the uncanny instrument before and did not know what else it might do to her if she said anything more that was not true.

The fact is that it requires an effort to state what is not true, and this effort always results in a deviation from the normal in the refraction of the eye. So sensitive is the test that if the subject, whether his vision is ordinarily normal or not, pronounces the initials of his name correctly while looking at a blank surface without trying to see, there will be no error of refraction; but if he miscalls one initial, even without any consciousness of effort, and with full knowledge that he is deceiving no one, myopia will be produced.

CURED IN FIFTEEN MINUTES

Patients often ask how long it takes to be cured. The answer is that it takes only as long as it takes to relax. If this can be done in five minutes, the patient is cured in five minutes, no matter how great the degree of his error of refraction, or how long its duration. All persons with errors of refraction are able to relax in a few seconds under certain conditions, but to gain permanent relaxation usually requires considerable time. Some persons, however, are able to get it very quickly. These quick cures are very rare, except in the case of children under twelve; but they do occur, and I believe the time is coming when it will be possible to cure everyone quickly. It is only a question of accumulating more facts and presenting them in such a way that the patient can grasp them quickly,

A very remarkable case of a quick cure was that of a man of fifty-five who had worn glasses for thirty years for distant vision and ten years for reading, and whose distant vision at the time he consulted me was 20/200.

When he looked at the Snellen test card the letters appeared grey to him instead of black. He was told that they

were black, and the fact was demonstrated by bringing the card close to him. His attention was also called to the fact that the small letters were just as black as the large ones He was then directed to close and cover his eyes with the palms of his hands, shutting out all the light. When he did this he saw a perfect black, indicating that he had secured perfect relaxation and that the optic nerve and visual centers of the brain were not disturbed. While his eyes were still closed he was asked:

"Do you think that you can remember with your eyes open the perfect black that you now see?"

"Yes," he answered, "I know I can."

When he opened his eyes, however, his memory of the black was imperfect, and though able to read the large letters, he could not read the small ones. A second time he was told to close and cover his eyes, and again he saw a perfect black. When he opened them he was able to retain complete control of his memory, and so was able to read the whole card. This was ten minutes after he entered the office.

Diamond type was now given him to read, but the letters looked grey to him, and he could not distinguish them. Neither could he remember black when he was looking at them, because in order to see them grey he had to strain, and in order to remember black he would have had to relax, and he could not do both at the same time. He was told that the letters were perfectly black, and when he looked away from them he was able to remember them black. When he looked back he still remembered them black, and was able to read them with normal vision at twelve inches. This took five minutes, making the whole time in the office fifteen minutes. The cure was permanent, the patient not only retaining what he had gained, but continuing to improve his sight, by daily reading of fine print and the Snellen test card, till it became almost telescopic.

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $3, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

BE FRIENDLY—SUBSCRIBE

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I OCTOBER, 1919 No. 4

The Swinging Cure

Simultaneous Retinoscopy

Floating Specks

Correspondence Treatment

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

THE SWINGING CURE

If you see a letter perfectly, you may note that it appears to pulsate, or move slightly in various directions. If your sight is imperfect, the letter will appear to be stationary. The apparent movement is caused by the unconscious shifting of the eye. The lack of movement is due to the fact that the eye stares, or looks too long at one point. This is an invariable symptom of imperfect sight, and may often be relieved by the following method:

Close your eyes and cover them with the palms of the hands so as to exclude all the light, and shift mentally from one side of a black letter to the other. As you do this, the mental picture of the letter will appear to move back and forth in a direction contrary to the imagined movement of the eye. Just so long as you imagine that the letter is moving, or swinging, you will find that you are able to remember it, and the shorter and more regular the swing, the blacker and more distinct the letter will appear. If you are able to imagine the letter stationary, which may be difficult, you will find that your memory of it will be much less perfect.

Now open your eyes and look first at one side and then at the other of the real letter. If it appears to move in a direction opposite to the movement of the eye, you will find that your vision has improved. If you can imagine the swing of the letter as well with your eyes open as with your eyes closed, as short, as regular and as continuous, your vision will be normal.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I OCTOBER, 1919 No. 4

SIMULTANEOUS RETINOSCOPY

Much of my information about the eye has been obtained by means of simultaneous retinoscopy.

The retinoscope is an instrument used to measure the refraction of the eye. It throws a beam of light into the pupil by reflection from a mirror, the light being either outside the instrument—above and behind the subject—or arranged within it by means of an electric battery. On looking through the sight-hole one sees a larger or smaller part of the pupil filled with light, which in normal human eyes is a reddish yellow, because this is the color of the retina, but which is green in a cat's eye, and might be white if the retina were diseased. Unless the eye is exactly focussed at the point from which it is being observed, one sees also a dark shadow at the edge of the pupil, and it is the behavior of this shadow when the mirror is moved in various directions which reveals the refractive condition of the eye. If the instrument is used at a distance of six feet or more, and the shadow moves in a direction opposite to the movement of the mirror, the eye is myopic. If it moves in the same direction as the mirror, the eye is either hypermetropic or normal; but in the case of hypermetropia

the movement is more pronounced than in that of normality, and an expert can usually tell the difference between the two states merely by the nature of the movement, In astigmatism the movement is different in different meridians. To determine the degree of the error, or to distinguish accurately between hypermetropia and normality, or between the different kinds of astigmatism, it is usually necessary to place a glass before the eye of the subject.

This exceedingly useful instrument has possibilities which have not been generally realized by the medical profession. It is commonly employed only under certain artificial conditions in a dark room; but it is possible to use it under all sorts of normal and abnormal conditions on the eyes both of human beings and of the lower animals. I have used it in the daytime and at night; when the subjects were comfortable and when they were excited; when they were trying to see and when they were not; when they were lying and when they were telling the truth. I have also used it, under varying conditions, on the eyes of many cats, dogs, rabbits, birds, turtles, reptiles and fish.

Most ophthalmologists depend upon the Snellen test card, supplemented by trial lenses, to determine whether the vision is normal or not, and to determine the degree of any abnormality that may exist. This is a slow, awkward and unreliable method of testing the vision, and absolutely unavailable for the study of the refraction of the lower animals and that of human beings under the conditions of life. The test card can be used only under certain favorable conditions, but the retinoscope can be used anywhere. It is a little easier to use it in a dim light than in a bright one, but it may be used in any light, even with the strong light of the sun shining directly into the eye. It is available whether the subject is at rest or in motion, asleep or awake, or

even under ether or chloroform. It is also available when the observer is in motion. It has been used successfully when the eyelids were partly closed, shutting off part of the area of the pupil; when the pupil was dilated; also when it was contracted to a pin-point; when the subject was reading fine print at six inches, or at a greater distance; and when the eye was oscillating from side to side, from above downward, or in other directions.

It takes a considerable time, varying from minutes to hours, to measure the refraction with the Snellen test card and trial lenses. With the retinoscope, however, the refraction can be determined in a fraction of a second. With the Snellen test card and trial lenses it would be impossible to get any information about the refraction of a baseball player at the moment he swings for the ball, at the moment he strikes it, and at the moment after he strikes it. With the retinoscope, however, it is quite easy to determine whether his vision is normal, or whether he is myopic, hypermetropic, or astigmatic, when he does these things; and if any errors of refraction are noted, one can guess their degree pretty accurately by the rapidity of the movement of the shadow.

With the Snellen test card and trial lenses conclusions must be drawn from the patient's statements as to what he sees; but the patient often becomes so worried and confused during the examination that he does not know what he sees, or whether different glasses make his sight better, or worse; and, moreover, visual acuity is not reliable evidence of the state of the refraction. One patient with two diopters of myopia may see twice as much as another with the same error of refraction. The evidence of the test card is, in fact, entirely subjective; that of the retinoscope is entirely objective, depending in no way upon the statements of the patient.

By means of simultaneous retinoscopy it has been demonstrated that the refraction of the eye is never constant; that all persons with errors of refraction have, at frequent intervals during the day and night, moments of normal vision when their myopia, hypermetropia, or astigmatism, disappears completely; and that all persons, no matter how good their sight may ordinarily be, have moments of imperfect sight when they become myopic, hypermetropic, or astigmatic. It has also been demonstrated that when the eye makes an effort to see, an error of refraction is always produced, and that when it looks at objects without effort, all errors of refraction disappear, no matter how great their degree, or how long their duration. It has been further demonstrated that when the eye strains to see distant objects myopia is always produced in one or all meridians, and when it strains to see near objects hypermetropia is always produced in one or all meridians.

The examination of the eyes of persons while asleep, or under the influence of ether or chloroform, has shown that the eye is rarely at rest during sleep, or while the subject is unconscious from any cause. Persons whose sight was normal while awake were found to have myopia, hypermetropia and astigmatism when asleep, and if these errors were present when they were awake, they were increased during sleep. This explains why so many people are unable to see as well in the morning as at other times, and why people waken with headaches and pain in the eyes. Under ether or chloroform, errors of refraction are also produced or increased, and when people are sleepy they have invariably been found to have errors of refraction.

Under conditions of mental or physical discomfort, such as pain, cough, fever, discomfort from heat or cold, depression, anger, or anxiety, errors of refraction are always produced in the normal eye, or increased in

the eye in which they already exist. In a dim light, in a fog, or in the rain, the retinoscope may indicate no error of refraction in eyes which ordinarily have normal sight; but a pilot on a ship on a rainy night usually has an error of refraction, because he is straining to see, and it is rare to find persons in positions of responsibility under unfavorable conditions with normal vision.

In order to obtain reliable results with the retinoscope it must be used at a distance of six feet or more from the subject. When used at a distance of three feet or less, as it commonly is, the subject becomes nervous and unconsciously strains, thus altering his refraction.

FLOATING SPECKS

A very common phenomenon of imperfect sight is the one known to medical science as *muscae volitantes*, or *flying flies*. These floating specks are usually dark, or black; but sometimes appear like white bubbles, and in rare cases may assume all the colors of the rainbow. They move somewhat rapidly, usually in curving lines, before the eyes, and always appear to be just beyond the point of fixation. If one tries to look at them directly, they seem to move a little farther away. Hence their name of *flying flies*.

The literature of the subject is full of speculations as to the origin of these appearances. Some have attributed them to the presence of floating specks—dead cells or the debris of cells—in the vitreous humor, the transparent substance that fills four-fifths of the eyeball behind the crystalline lens. Similar specks on the surface of the cornea have also been held responsible for them. It has even been surmised that they might be caused by the passage of tears over the cornea. They are so common in myopia that they have been supposed

to be one of the symptoms of this condition, although they occur also with other errors of refraction, as well as in eyes otherwise normal. They have been attributed to disturbances of the circulation, the digestion and the kidneys, and because so many insane people have them, have been thought to be an evidence of incipient insanity. The patent-medicine business has thrived upon them, and it would be difficult to estimate the amount of mental torture they have caused, as the following cases illustrate.

A clergyman who was much annoyed by the continual appearance of floating specks before his eyes was told by his eye specialist that they were a symptom of kidney disease, and that in many cases of kidney trouble, disease of the retina might be an early symptom. So at regular intervals he went to the specialist to have his eyes examined, and when at length the latter died, he looked around immediately for some one else to make the periodical examination. His family physician directed him to me. I was by no means so well known as his previous ophthalmological adviser, but it happened that I had taught the family physician how to use the ophthalmoscope after others had failed to do so. He thought, therefore, that I must know a lot about the use of the instrument, and what the clergyman particularly wanted was some one capable of making a thorough examination of the interior of his eyes, and detecting at once any signs of kidney disease that might make their appearance. So he came to me, and at least four times a year for ten years he continued to come.

Each time I made a very careful examination of his eyes, taking as much time over it as possible, so that he would believe that it was careful; and each time he went away happy because I could find nothing wrong. Once when I was out of town he got a cinder in his eye and went to another oculist to get it out. When I

came back late at night I found him sitting on my doorstep, on the chance that I might return. His story was a pitiable one. The strange doctor had examined his eyes with the ophthalmoscope, and had suggested the possibility of glaucoma, describing the disease as a very treacherous one which might cause him to go suddenly blind and would be agonizingly painful. He emphasized what the patient had previously been told about the danger of kidney disease, suggested that the liver and heart might also be involved, and advised him to have all of these organs carefully examined. I made another examination of his eyes in general and their tension in particular; I had him feel his eyeballs and compare them with my own, so that he might see for himself that they were not becoming hard as a stone; and finally I succeeded in reassuring him. I have no doubt, however, that he went at once to his family physician for an examination of his internal organs.

A man returning from Europe was looking at some white clouds one day when floating specks appeared before his eyes. He consulted the ship's doctor, who told him that the symptom was very serious, and might be the forerunner of blindness. It might also indicate incipient insanity, as well as other nervous or organic diseases. He advised him to consult his family physician and an eye specialist as soon as he landed, which he did. This was twenty-five years ago, but I shall never forget the terrible state of nervousness and terror into which the patient had worked himself by the time he came to me. It was even worse than that of the clergyman, who was always ready to admit that his fears were unreasonable. I examined his eyes very carefully, and found them absolutely normal. The vision was perfect both for the near-point and the distance. The color perception, the fields and the tension were normal; and under a strong magnifying glass I could find no

opacities in the vitreous. In short, there were absolutely no symptoms of any disease. I told the patient there was nothing wrong with his eyes, and I also showed him an advertisement of a quack medicine in a newspaper which gave a great deal of space to describing the dreadful things likely to follow the appearance of floating specks before the eyes, unless you began betimes to take the medicine in question at one dollar a bottle. I pointed out that the advertisement, which was appearing in all the big newspapers of the city every day, and probably in other cities, must have cost a lot of money, and must, therefore, be bringing in a lot of money. Evidently there must be a great many people suffering from this symptom, and if it were as serious as was generally believed, there would be a great many more blind and insane people in the community than there were. The patient went away somewhat comforted, but at eleven o'clock—his first visit had been at nine—he was back again. He still saw the floating specks, and was still worried about them. I examined his eyes again as carefully as before, and again was able to assure him that there was nothing wrong with them. In the afternoon I was not in my office, but I was told that he was there at three and at five. At seven he came again, bringing with him his family physician, an old friend of mine. I said to the latter:

"Please make this patient stay at home. I have to charge him for his visits, because he is taking up so much of my time; but it is a shame to take his money when there is nothing wrong with him."

What my friend said to him I don't know, but he did not come back again.

I did not know as much about muscae volitantes then as I know now, or I might have saved both of these patients a great deal of uneasiness. I could tell them that their eyes were normal, but I did not know how

to relieve them of the symptom, which is simply an illusion resulting from mental strain. The specks are associated to a considerable extent with markedly imperfect eyesight, because persons whose eyesight is imperfect always strain to see; but persons whose eyesight is ordinarily normal may see them at times, because no eye has normal sight all the time. Most people can see muscae volitantes when they look at the sun, or any uniformly bright surface, like a sheet of white paper upon which the sun is shining. This is because most people strain when they look at surfaces of this kind. The specks are never seen, in short, except when the eyes and mind are under a strain, and they always disappear when the strain is relieved. If one can remember a small letter on the Snellen test card by central fixation, the specks will immediately disappear, or cease to move; but if one tries to remember two or more letters equally well at one time, they will reappear and move.

Usually the strain that causes muscae volitantes is very easily relieved.

CORRESPONDENCE TREATMENT

Correspondence treatment is usually regarded as quackery, and it would be manifestly impossible to treat many diseases in this way. Pneumonia and typhoid, for instance, could not possibly be treated by correspondence, even if the physician had a sure cure for these conditions and the mails were not too slow for the purpose. In the case of most diseases, in fact, there are serious objections to correspondence treatment.

But myopia, hypermetropia and astigmatism are functional conditions, not organic, as the text-books teach, and as I believed myself until I learned better. Their treatment by correspondence, therefore, has not

the drawbacks that exist in the case of most physical derangements. One cannot, it is true, fit glasses by correspondence as well as when the patient is in the office, but even this can be done, as the following case illustrates.

An old colored woman in the wilds of Honduras, far removed from any physician or optician, was unable to read her Bible, and her son, a waiter in New York, asked me if I could not do something for her. The suggestion gave me a distinct shock which I will remember as long as I live. I had never dreamed of the possibility of prescribing glasses for anyone I had not seen, and I had, besides, some very disquieting recollections of colored women whom I had tried to fit with glasses at my clinic. If I had so much difficulty in prescribing the proper glasses under favorable conditions, how could I be expected to fit a patient whom I could not even see? The waiter was deferentially persistent, however. He had more faith in my genius than I had, and as his mother was nearing the end of her life, he was very anxious to gratify her last wishes. So, like the unjust judge of the parable, I yielded at last to his importunity, and wrote a prescription for convex 3.00 D. S. The young man ordered the glasses and mailed them to his mother, and by return mail came a very grateful letter stating that they were perfectly satisfactory.

A little later the patient wrote that she couldn't see objects at the distance that were perfectly plain to other people, and asked if some glasses couldn't be sent that would make her see at the distance as well as she did at the near-point. This seemed a more difficult proposition than the first one; but again the son was persistent, and I myself could not get the old lady out of my mind. So again I decided to do what I could. The waiter had told me that his mother had read her Bible long after the age of forty. Therefore I knew she could not have much

hypermetropia, and was probably slightly myopic. I knew also that she could not have much astigmatism, for in that case her sight would always have been noticeably imperfect. Accordingly I told her son to ask her to measure very accurately the distance between her eyes and the point at which she could read her Bible best with her glasses, and to send me the figures. In due time I received, not figures, but a piece of string about a quarter of an inch in diameter and exactly ten inches long. If the patient's vision had been normal for the distance, I knew that she would have been able to read her Bible best with her glasses at thirteen inches. The string showed that at ten inches she had a refraction of four diopters. Subtracting from this the three diopters of her reading glasses, I got one diopter of myopia. I accordingly wrote a prescription for concave 1.00 D. S., and the glasses were ordered and mailed to Honduras. The acknowledgment was even more grateful than in the case of the first pair. The patient said that for the first time in her life she was able to read signs and see other objects at a distance as well as other people did, and that the whole world looked entirely different to her.

Would anyone venture to say that it was unethical for me to try to help this patient? Would it have been better to leave her in her isolation without even the consolation of Bible reading? I do not think so. What I did for her required only an ordinary knowledge of physiological optics, and if I had failed, I could not have done her much harm.

In the case of the treatment of imperfect sight without glasses there can be even less objection to the correspondence method. It is true that in most cases progress is more rapid and the results more certain when the patient can be seen personally; but often this is impossible, and I see no reason why patients who can-

not have the benefit of personal treatment should be denied such aid as can be given them by correspondence. I have been treating patients in this way for years, and often with extraordinary success.

Some years ago an English gentleman wrote to me that his glasses were very unsatisfactory. They not only did not give him good sight, but they increased instead of lessening his discomfort. He asked if I could help him, and since relaxation always relieves discomfort and improves the vision, I did not believe that I was doing him an injury in telling him how to rest his eyes. He followed my directions with such good results that in a short time he obtained perfect sight for both the distance and the near-point without glasses, and was completely relieved of his pain. Five years later he wrote me that he had qualified as a sharpshooter in the army. Did I do wrong in treating him by correspondence? I do not think so.

After the United States entered the European war, an officer wrote to me from the deserts of Arizona that the use of his eyes at the near-point caused him great discomfort, which glasses did not relieve, and that the strain had produced granulation of the lids. As it was impossible for him to come to New York, I undertook to treat him by correspondence. He improved very rapidly. The inflammation of the lids was relieved almost immediately, and in about four months he wrote me that he had read one of my own reprints—by no means a short one—in a dim light, with no bad after effects; that the glare of the Arizona sun, with the Government thermometer registering 114, did not annoy him, and that he could read the ten line on the test card at fifteen feet almost perfectly, while even at twenty feet he was able to make out most of the letters.

A third case was that of a forester in the employ of the U. S. Government. He had myopic astigmatism, and

suffered extreme discomfort, which was not relieved either by glasses or by long summers in the mountains, where he used his eyes but little for close work. He was unable to come to New York for treatment, and although I told him that correspondence treatment was somewhat uncertain, he said he was willing to risk it. It took three days for his letters to reach me and another three for my reply to reach him, and as letters were not always written promptly on either side, he often did not hear from me more than once in three weeks. Progress under these conditions was necessarily slow; but his discomfort was relieved very quickly, and in about ten months his sight had improved from 20/50 to 20/20.

In almost every case the treatment of cases coming from a distance is continued by correspondence after they return to their homes; and although the patients do not get on so well as when they are coming to the office, they usually continue to make progress till they are cured.

At the same time it is often very difficult to make patients understand what they should do when one has to communicate with them entirely by writing, and probably all would get on better if they could have some personal treatment. At the present time the number of doctors in different parts of the United States who understand the treatment of imperfect sight without glasses is altogether too few, and my efforts to interest them in the matter have not been very successful. I would consider it a privilege to treat medical men without a fee, and when cured they will be able to assist me in the treatment of patients in their various localities.

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $3, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I NOVEMBER, 1919 No. 5

The Memory Cure

Reason and Authority

The Effect of Light Upon the Eyes

Two Points of View

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

THE MEMORY CURE

When the sight is perfect, the memory is also perfect, because the mind is perfectly relaxed. Therefore the sight may be improved by any method that improves the memory. The easiest thing to remember is a small black spot of no particular size and form; but when the sight is imperfect it will be found impossible to remember it with the eyes open and looking at letters, or other objects with definite outlines. It may, however, be remembered for a few seconds or longer, when the eyes are closed and covered, or when looking at a blank surface where there is nothing particular to see. By cultivating the memory under these favorable conditions, it gradually becomes possible to retain it under unfavorable ones, that is, when the eyes are open and the mind conscious of the impressions of sight. By alternately remembering the period with the eyes closed and covered and then looking at the Snellen test card, or other letters or objects; or by remembering it when looking away from the card where there is nothing particular to see, and then looking back; the patient becomes able, in a longer or shorter time, to retain the memory when looking at the card, and thus becomes able to read the letters with normal vision. Many children have been cured very quickly by this method. Adults who have worn glasses have greater difficulty. Even under favorable conditions, the period cannot be remembered for more than a few seconds, unless one shifts from one part of it to another. One can also shift from one period, or other small black object, to another.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I NOVEMBER, 1919 No. 5

REASON AND AUTHORITY

Some one—perhaps it was Bacon—has said: "You cannot by reasoning correct a man of ill opinion which by reasoning he never acquired." He might have gone a step farther and stated that neither by reasoning, nor by actual demonstration of the facts, can you convince some people that an opinion which they have accepted on authority is wrong.

A man whose name I do not care to mention, a professor of ophthalmology, and a writer of books well known in this country and in Europe, saw me perform an experiment upon the eye of a rabbit which, according to others who had witnessed it, demonstrated beyond any possibility of error that the lens is not a factor in accommodation. At each step of the operation he testified to the facts; yet at the conclusion he preferred to discredit the evidence of his senses rather than accept the only conclusion that these facts admitted.

First he examined the eye of the animal to be experimented upon with the retinoscope and found it normal, and the fact was written down. Then the eye was stimulated with electricity, and he testified that it accommodated. This was also written down. I now divided the superior oblique muscle, and the eye was again stimulated with electricity.

The doctor observed the eye with the retinoscope when this was being done and said, "You failed to produce accommodation." This fact, too, was written down. The doctor now used the electrode himself, but again failed to observe accommodation, and these facts were written down. I now sewed the cut ends of the muscle together, and once more stimulated the eye with electricity. The doctor said, "Now you have succeeded in producing accommodation," and this was written down. I now asked:

"Do you think that superior oblique had anything to do with producing accommodation?"

"Certainly not," he replied.

"Why?" I asked.

"Well," he said, "I have only the testimony of the retinoscope. I am getting on in years, and I don't feel that confidence in my ability to use the retinoscope that I once had. I would rather you wouldn't quote me on this."

While the operation was in progress, however, he gave no indication whatever of doubting his ability to use the retinoscope. He was very positive, in fact, that I had failed to produce accommodation after the cutting of the oblique muscle, and his tone suggested that he considered the failure ignominious. It was only after he found himself in a logical trap, with no way out except by discrediting his own observations, that he appeared to have any doubts as to their value.

Patients whom I have cured of various errors of refraction have frequently returned to specialists who had prescribed glasses for them, and, by reading fine print and the Snellen test card with normal vision, have demonstrated the fact that they were cured, without in any way shaking the faith of these practitioners in the doctrine that such cures are impossible. A girl of sixteen who had progressive myopia of such high degree that she was not allowed to read, and was unable to go about on the streets without a guide,

was assured by the specialist whom her family consulted that her condition was quite hopeless, and that it was likely to progress until it ended in blindness. She was cured in a very short time by means of the methods advocated in this magazine, becoming able to discard her glasses and resume all the ordinary activities of life. She then returned to the specialist who had condemned her to blindness to tell him the good news; but, while he was unable to deny the fact that her vision was normal without glasses, he said it was impossible that she would have been cured of myopia, because myopia was incurable. How he reconciled this statement with his former patient's condition he was unable to make clear to her.

A lady with compound myopic astigmatism[1] suffered from almost constant headaches which were very much worse when she took her glasse soff. Every week, no matter what she did, she was so prostrated by eyestrain that she had to spend a few days in bed; and if she went to a theatre, or to a social function, she had to stay there longer. She was told to take off her glasses and go to the movies; to look first at the corner of the screen, then off to the dark, then back to the screen a little nearer to the center, and so forth. She did so, and soon became able to look directly at the pictures without discomfort. After that nothing troubled her. One day she called on her former ophthalmological adviser, in the company of a friend who wanted to have her glasses changed, and told him of her cure. The facts seemed to make no impression on him whatever. He only laughed and said, "I guess Dr. Bates is more popular with you than I am."

In some cases patients themselves, after they are cured, allow themselves to be convinced that it was impossible that such a thing could have happened, and go back to their

[1] A condition in which the eye is shortsighted in all meridians, but more so in one than in the others.

glasses. A clergyman and writer, aged forty-seven, who had worn glasses for years for distance and reading, had what I should have considered the good fortune to be very quickly cured. By the aid of his imagination he was able to relax in less than five minutes, and to stay relaxed. When he looked at fine print it appeared grey to him, and he could not read it. I asked him if he had ever seen printer's ink. He replied, of course, that he had. I then told him that the paragraph of printed matter which he held in his hand was printed in printer's ink, and that it was black and not grey. I asked him if he did not know and believe that it was black, or if he could not at least imagine that it was black. "Yes," he said, "I can do that"; and immediately he read the print. It took him only about a minute to do this, and he was not more than five minutes in the office. The cure was permanent, and he was very grateful—for a time. Then he began to talk to eye specialists whom he knew, and thereupon grew skeptical as to the value of what I had done for him. One day I met him at the home of a mutual friend, and in the presence of a number of other people he accused me of having hypnotized him, adding that to hypnotize a patient without his knowledge or consent was to do him a grievous wrong. Some of the listeners protested that whether I had hypnotized him or not, I had not only done him no harm, but had greatly benefitted him, and he ought to forgive me. He was unable, however, to take this view of the matter. Later he called on a prominent eye specialist who told him that the presbyopia (old sight) and astigmatism from which he had suffered were incurable, and that if he persisted in going without his glasses he might do himself great harm. The fact that his sight was perfect for the distance and the near-point had no effect upon the specialist, and the patient allowed himself to be frightened into disregarding it also. He went back to his glasses, and so far as I know has been wearing them ever since. The story obtained

wide publicity, for the man had a large circle of friends and acquaintances; and if I had destroyed his sight I could scarcely have suffered more than I did for curing him.

Fifteen or twenty years ago the specialist mentioned in the foregoing story read a paper on cataract at a meeting of the ophthalmological section of the American Medical Association in Atlantic City, and asserted that anyone who said that cataract could be cured without the knife was a quack. At that time I was assistant surgeon at the New York Eye and Ear Infirmary, and it happened that I had been collecting statistics of the spontaneous cure of cataract at the request of the executive surgeon of this institution, Dr. Henry G. Noyes, Professor of Ophthalmology at the Bellevue Hospital Medical School. As a result of my inquiry I had secured records of a large number of cases which had recovered, not only without the knife, but wtih-out any treatment at all. I also had records of cases which I had sent to Dr. James E. Kelly of New York and which he had cured, largely by hygienic methods. Dr. Kelly is not a quack, and at that time was Professor of Anatomy in the New York Post Graduate Medical School and Hospital and attending surgeon to a large city hospital. In the five minutes allotted to those who wished to discuss the paper, I was able to tell the audience enough about these cases to make them want to hear more. My time was, therefore, extended, first to half an hour and then to an hour. Later both Dr. Kelly and myself received many letters from men in different parts of the country who had tried his treatment with success. The man who wrote the paper had blundered, but he did not lose any prestige because of my attack with facts upon his theories. He is still a prominent and honored ophthalmologist, and in his latest book he gives no hint of having ever heard of any successful method of treating cataract other than by operation. He was not convinced by my record of spontaneous cures, nor by Dr. Kelly's record

of cures by treatment; and while a few men were sufficiently impressed to try the treatment recommended, and while they obtained satisfactory results, the facts made no impression upon the profession as a whole, and did not modify the teaching of the schools. That spontaneous cures of cataract do sometimes occur cannot be denied; but they are supposed to be very rare, and any one who suggests that the condition can be cured by treatment still exposes himself to the suspicion of being a quack.

Between 1886 and 1891 I was a lecturer at the Post Graduate Hospital and Medical School. The head of the institution was Dr. D. B. St. John Roosa. He was the author of many books, and was honored and respected by the whole medical profession. At the school they had got the habit of putting glasses on the nearsighted doctors, and I had got the habit of curing them without glasses. It was naturally annoying to a man who had put glasses on a student to have him appear at a lecture without them and say that Dr. Bates had cured him. Dr. Roosa found it particularly annoying, and the trouble reached a climax one evening at the annual banquet of the faculty when, in the presence of one hundred and fifty doctors, he suddenly poured out the vials of his wrath upon my head. He said that I was injuring the reputation of the Post Graduate by claiming to cure myopia. Every one knew that Donders said it was incurable, and I had no right to claim that I knew more than Donders. I reminded him that some of the men I had cured had been fitted with glasses by himself. He replied that if he had said they had myopia he had made a mistake. I suggested further investigation. "Fit some more doctors with glasses for myopia," I said, "and I will cure them. It is easy for you to examine them afterwards and see if the cure is genuine." This method did not appeal to him, however. He repeated that it was impossible to cure myopia, and to prove

that it was impossible he expelled me from the Post Graduate, even the privilege of resignation being denied to me.

The fact is that, except in rare cases, man is not a reasoning being. He is dominated by authority, and when the facts are not in accord with the view imposed by authority, so much the worse for the facts. They may and indeed must win in the long run; but in the meantime the world gropes needlessly in darkness and endures much suffering that might have been avoided.

THE EFFECT OF LIGHT UPON THE EYES

Although the eyes were made to react to the light, a very general fear of the effect of this element upon the organs of vision is entertained both by the medical profession and by the laity. Extraordinary precautions are taken in our homes, offices and schools to temper the light, whether natural or artificial, and to insure that it shall not shine directly into the eyes; smoked and amber glasses, eye-shades, broad-brimmed hats and parasols are commonly used to protect the organs of vision from what is considered an excess of light; and when actual disease is present, it is no uncommon thing for patients to be kept for weeks, months and years in dark rooms, or with bandages over their eyes.

The evidence on which this universal fear of the light has been based is of the slightest. In the voluminous literature of the subject one finds such a lack of information that, in 1910, Dr. J. Herbert Parsons of the Royal Ophthalmic Hospital of London, addressing a meeting of the Ophthalmological Section of the American Medical Association, felt justified in saying that ophthalmologists, if they were honest with themselves, "must confess to a lamentable ignorance of the conditions which render bright light injurious to the eyes."[1] Since then,

[1] Jour. Am. Med. Assn., Dec. 10, 1910, p. 2028.

Verhoeff and Bell have reported[1] an exhaustive series of experiments carried on at the Pathological Laboratory of the Massachusetts Charitable Eye and Ear Infirmary, which indicate that the danger of injury to the eye from light radiation as such has been "very greatly exaggerated." That brilliant sources of light sometimes produce unpleasant temporary symptoms cannot, of course, be denied; but as regards definite pathological effects, or permanent impairment of vision from exposure to light alone, Drs. Verhoeff and Bell were unable to find, either clinically or experimentally, anything of a positive nature

The results of these experiments are in complete accord with my own observations as to the effect of strong light upon the eyes. In my experience such light has never been permanently injurious. Persons with normal sight have been able to look at the sun for an indefinite length of time, even an hour or longer, without any discomfort or loss of vision. Immediately afterward they were able to read the Snellen test card with improved vision, their sight having become better than what is ordinarily considered normal. Some persons with normal sight do suffer discomfort and loss of vision when they look at the sun; but in such cases the retinoscope always indicates an error of refraction, showing that this condition is due, not to the light, but to strain. In exceptional cases persons with defective sight have been able to look at the sun, or have thought that they have looked at it, without discomfort and without loss of vision; but, as a rule, the strain in such eyes is enormously increased and the vision decidedly lowered by sun-gazing, as manifested by inability to read the Snellen test card. Blind areas (scotomata) may develop in various parts of the field—two or three or

[1] Proc. Am. Acad. Arts and Sciences, July, 1916, vol. 51, No. 13.

more. The sun, instead of appearing perfectly white, may appear to be slate-colored, yellow, red, blue, or even totally black. After looking away from the sun, patches of color of various kinds and sizes may be seen, continuing a variable length of time, from a few seconds to a few minutes, hours, or even months. In fact, one patient was troubled in this way for a year or more after looking at the sun for a few seconds. Even total blindness lasting a few hours has been produced. Organic changes may also be produced. Inflammation, redness of the conjunctiva, cloudiness of the lens and of the aqueous and viterous humours, congestion and cloudiness of the retina, optic nerve and choroid, have all resulted from sun-gazing. These effects, however, are always temporary. The scotomata, the strange colors, even the total blindness, as explained in the preceding chapter, are only mental illusions. No matter how much the sight may have been impaired by sun-gazing, or how long the impairment may have lasted, a return to normal has always occurred; while prompt relief of all the symptoms mentioned has always followed the relief of eyestrain, showing that the conditions are the result, not of the light, but of the strain. Some persons who have believed their eyes to have been permanently injured by the sun have been promptly cured by central fixation, indicating that their blindness had been simply functional.

By persistence in looking at the sun, a person with normal sight soon becomes able to do so without any loss of vision; but persons with imperfect sight usually find it impossible to accustom themselves to such a strong light until their vision has been improved by other means. One has to be very careful in recommending sun-gazing to persons with imperfect sight; because, although no permanent harm can result from it, great temporary discomfort may be produced, with no

permanent benefit. In some rare cases, however, complete cures have been effected by this means alone.

In one of these cases the sensitiveness of the patient, even to ordinary daylight, was so great that an eminent specialist had felt justified in putting a black bandage over one eye and covering the other with a smoked glass so dark as to be nearly opaque. She was kept in this condition of almost total blindness for two years without any improvement. Other treatment extending over some months also failed to produce satisfactory results. She was then advised to look directly at the sun. The immediate result was total blindness, which lasted several hours; but next day the vision was not only restored to its former condition, but was improved. The sun-gazing was repeated, and each time the blindness lasted for a shorter period. At the end of a week the patient was able to look directly at the sun without discomfort, and her vision, which had been 20/200 without glasses and 20/70 with them, had improved to 20/10, twice the accepted standard for normal vision.

Like the sun, a strong electric light may also lower the vision temporarily, but never does any permanent harm. In those exceptional cases in which the patient can become accustomed to the light, it is beneficial. After looking at a strong electric light some patients have been able to read the Snellen test card better.

It is not light but darkness that is dangerous to the eye. Prolonged exclusion from the light always lowers the vision, and may produce serious inflammatory conditions. Among young children living in tenements this is a somewhat frequent cause of ulcers upon the cornea, which ultimately destroy the sight. The children, finding their eyes sensitive to light, bury them in the pillows and thus shut out the light entirely. The universal fear of reading or doing fine work in a dim light is, however, unfounded. So long as the light is sufficient

so that one can see without discomfort, this practice is not only harmless, but may be beneficial.

Sudden contrasts of light are supposed to be particularly harmful to the eye. The theory on which this idea is based is summed up as follows by Fletcher B. Dresslar, specialist in school-hygiene and sanitation of the United States Bureau of Education:

"The muscles of the iris are automatic in their movements, but rather slow. Sudden strong light and weak illumination are painful and likewise harmful to the retina. For example, if the eye adjusted to a dim light is suddenly turned toward a brilliantly lighted object, the retina will receive too much light, and will be shocked before the muscles controlling the iris can react to shut out the superabundance of light. If contrasts are not strong, but are frequently made, that is, if the eye is called upon to function where frequent adjustments in this way are necessary, the muscles controlling the iris become fatigued, respond more slowly and less perfectly. As a result, eyestrain in the ciliary muscles is produced and the retina is overstimulated. This is one cause of headaches and tired eyes."[1]

There is no evidence whatever to support these statements. Sudden fluctuations of light undoubtedly cause discomfort to many persons, but far from being injurious, I have found them, in all cases observed, to be actually beneficial. The pupil of the normal eye, when it has normal sight, does not change appreciably under the influence of changes of illumination; and persons with normal vision are not inconvenienced by such changes. I have seen a patient look directly at the sun after coming from an imperfectly lighted room, and then, returning to the room, immediately pick up a newspaper and read it. When the eye has imperfect

[1] School Hygiene, Brief Course Series in Education, edited by Paul Monroe, Ph.D., 1916, pp. 235-236.

sight, the pupil usually contracts in the light and expands in the dark, but it has been observed to contract to the size of a pinhole in the dark. Whether the contraction takes place under the influence of light or of darkness, the cause is the same, namely, strain. Persons with imperfect sight suffer great inconvenience, resulting in lowered vision, from changes in the intensity of the light; but the lowered vision is always temporary, and if the eye is persistently exposed to these conditions, the sight is benefited. Such practices as reading alternately in a bright and a dim light, or going from a dark room to a well-lighted one, and vice versa, are to be recommended. Even such rapid and violent fluctuations of light as those involved in the production of the moving picture are, in the long run, beneficial to all eyes. I always advise patients under treatment for the cure of defective vision to go to the movies frequently and practice central fixation. They soon become accustomed to the flickering light, and afterward other lights and reflections cause less annoyance.

TWO POINTS OF VIEW

Being anxious to know what my colleagues think of BETTER EYESIGHT, I lately sent notes to a number of them asking for their opinion. The following replies were so interesting that I think the readers of the magazine have a right to see them.

Dear Doctor:

As long as you ask for my opinion of your new magazine entitled BETTER EYESIGHT, permit me to give it to you in all frankness. It is what we call in the vernacular, "PUNK."

Meaning no personal offense, I am,

Your colleague,

Dear Doctor:

Your little note received this morning and am glad to have the opportunity to tell you what I think of BETTER EYESIGHT.

It is all that you claim for it, and I am always glad to receive it, as I know that I am going to get something beneficial for myself as well as something for the good of my patients.

If the medical bigots had BETTER EYESIGHT on their desks, and would put into practice what you give in each number, it would be a great blessing to the people who are putting eye crutches on their eyes. I first tried central fixation on myself and had marvelous results. I threw away my glasses and can now see better than I have ever done. I read very fine type (smaller than newspaper type) at a distance of six inches from the eyes, and can run it out at full arm's length and still read it without blurring the type

I have instructed some of my patients in your methods, and all are getting results. One case who has a partial cataract of the left eye could not see anything on the Snellen test card at twenty feet, and could see the letters only faintly at ten feet. Now she can read 20/10 with both eyes together and also with each eye separately, but the left eye seems, as she says, to be looking through a little fog. I could cite many other cases that have been benefited by central fixation, but this one is the most interesting to me.

Kindly send me more of the subscription slips, as I want to hand them out to my patients.

Yours very truly,

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $3, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I DECEMBER, 1919 No. 6

The Imagination Cure

The Menace of Large Print

Shifting and Swinging

Optimums and Pessimums

Home Treatment

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

THE IMAGINATION CURE

When the imagination is perfect the mind is always perfectly relaxed, and as it is impossible to relax and imagine a letter perfectly, and at the same time strain and see it imperfectly, it follows that when one imagines that one sees a letter perfectly one actually does see it, as demonstrated by the retinoscope, no matter how great an error of refraction the eye may previously have had. The sight, therefore, may often be improved very quickly by the aid of the imagination. To use this method the patient may proceed as follows:

Look at a letter at the distance at which it is seen best. Close and cover the eyes so as to exclude all the light, and remember it. Do this alternately until the memory is nearly equal to the sight. Next, after remembering the letter with the eyes closed and covered, and while still holding the mental picture of it, look at a blank surface a foot or more to the side of it, at the distance at which you wish to see it. Again close and cover the eyes and remember the letter, and on opening them look a little nearer to it. Gradually reduce the distance between the point of fixation and the letter, until able to look directly at it and imagine it as well as it is remembered with the eyes closed and covered. The letter will then be seen perfectly, and other letters in its neighborhood will come out. If unable to remember the whole letter, you may be able to imagine a black period as forming part of it. If you can do this, the letter will also be seen perfectly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I DECEMBER, 1919 No. 6

THE MENACE OF LARGE PRINT

If you look at the big "C" on the Snellen test card (or any other large letter of the same size) at ten, fifteen, or twenty feet, and try to see it all alike, you may note a feeling of strain and the letter may not appear perfectly black and distinct. If you now look at only one part of the letter, and see the rest of it worse, you will note that the part seen best appears blacker than the whole letter when seen all alike, and you may also note a relief of strain. If you look at the small "c" on the bottom line of the test card, you may be able to note that it seems blacker than the big "C." If not, imagine it as forming part of the area of the big "C." If you are able to see this part blacker than the rest of the letter, the imagined letter will, of course, appear blacker also. If your sight is normal, you may now go a step further and note that when you look at one part of the small "c" this part looks blacker than the whole letter, and that it is easier to see the letter in this way than to see it all alike.

If you look at a line of the smaller letters that you can read readily, and try to see them all alike—all equally black and equally distinct in outline—you will probably find it to be impossible, and the effort will produce discomfort and, perhaps, pain. You may, however, succeed

in seeing two or more of them alike. This, too, may cause much discomfort, and if continued long enough, will produce pain. If you now look at only the first letter of the line, seeing the adjoining ones worse, the strain will at once be relieved, and the letter will appear blacker and more distinct than when it was seen equally well with the others.

If your sight is normal at the near-point, you can repeat these experiments with a letter seen at this point, with the same results. A number of letters seen equally well at one time will appear less black and less distinct than a single letter seen best, and a large letter will seem less black and distinct than a small one; while in the case of both the large letter and the several letters seen all alike, a feeling of strain may be produced in the eye. You may also be able to note that the reading of very fine print, when it can be done perfectly, is markedly restful to the eye.

The smaller the point of maximum vision, in short, the better the sight, and the less the strain upon the eye. This fact can usually be demonstrated in a few minutes by any one whose sight is not markedly imperfect; and in view of some of our educational methods, is very interesting and instructive.

Probably every man who has written a book upon the eye for the last hundred years has issued a warning against fine print in school books, and recommended particularly large print for small children. This advice has been followed so assiduously that one could probably not find a lesson book for small children anywhere printed in ordinary reading type, while alphabets are often printed in characters one and two inches high. The British Association for the Advancement of Science does not wish to see children read books at all before

they are seven years old, and would conduct their education previous to that age by means of large printed wall-sheets, blackboards, pictures, and oral teaching. If they must read, however, it wants them to have 24- and 30-point type, with capitals about a quarter of an inch in height. This is carefully graded down, a size smaller each year, until at the age of twelve the children are permitted to have the same kind of type as their elders. Bijou editions of Bible, prayer-book and hymnals are forbidden, however, to children of all ages.[1]

In the London myope classes, which have become the model for many others of the same kind, books are eliminated entirely, and only the older children are allowed to print their lessons in one- and two-inch types.[2]

Yet it has just been shown that large print is a strain upon the eyes, while the retinoscope demonstrates that a strain to see at the near-point always produces hypermetropia[3] (commonly but erroneously called "farsight"). We should naturally expect, therefore, to find hypermetropia very common among small children; and it is. Of children eight and a half years old in the public schools of Philadelphia, Risley found[4] that more than eighty-eight per cent were hypermetropic, and similar figures may be found in all statistics of the subject. The percentage declines as the children become older, but hypermetropia, or hypermetropic astigmatism, remains at all ages the most common of all errors of refraction. Hypermetropia is, in fact, a much more serious problem than myopia, or nearsight. Yet we have heard very little about it, for the specialists have concluded, from its prevalence and its tendency to pass away or become less pronounced

1 Report on the Influence of School-Books upon Eyesight, second revised edition, 1913.
2 Pollock: The Education of the Semi-Blind, Glasgow Med. Jour., Dec., 1915.
3 Bates: The Cause of Myopia, N. Y. Med. Jour., March 10, 1912.
4 School Hygiene, in System of Diseases of the Eye, edited by Norris and Oliver, vol. ii, p. 353.

with the growth of the body, that it is the normal state of the immature human eye and therefore beyond the reach of preventive measures. It is true that many young children are not hypermetropic, but this fact is easily disposed of by the theory that the ciliary muscle alters the shape of the lens in such cases sufficiently to compensate for the shortness of the eyeball.

The baselessness of this theory, as well as the relation of large print to the production of hypermetropia, may be demonstrated by the fact that the condition can be relieved, and has been relieved in numerous cases, by the reading of fine print, combined with rest of the eyes. A child of eight was cured in a few visits by this means. Yet according to the British Association she should not, at this age, have been allowed to read any type larger than 12-point, with capitals more than an eighth of an inch in height. Many grown people have been cured of hypermetropia in the same way, and in all forms of functional imperfect sight the reading of fine print, when it can be done with comfort, has been found to be a benefit to the eyes. Even straining to see fine print is sometimes a benefit in myopia.

SHIFTING AND SWINGING

When the eye with normal vision regards a letter either at the near-point or at the distance, the letter may appear to pulsate, or move in various directions, from side to side, up and down, or obliquely. When it looks from one letter to another on the Snellen test card, or from one side of a letter to another, not only the letters, but the whole line of letters and the whole card, may appear to move from side to side. This apparent movement is due to the shifting of the eye, and is always in a direction contrary to its movement. If one looks at the

top of a letter, the letter is below the line of vision, and therefore appears to move downward. If one looks at the bottom, the letter is above the line of vision and appears to move upward. If one looks to the left of the letter, it is to the right of the line of vision and appears to move to the right. If one looks to the right, it is to the left of the line of vision and appears to move to the left.

Persons with normal vision are rarely conscious of this illusion, and may have difficulty in demonstrating it; but in every case that has come under my observation they have always become able, in a longer or shorter time, to do so. When the sight is imperfect the letters may remain stationary, or even move in the same direction as the eye.

It is impossible for the eye to fix a point longer than a fraction of a second. If it tries to do so, it begins to strain and the vision is lowered. This can readily be demonstrated by trying to hold one part of a letter for an appreciable length of time. No matter how good the sight, it will begin to blur, or even disappear, very quickly, and sometimes the effort to hold it will produce pain. In the case of a few exceptional people a point may appear to be held for a considerable length of time; the subjects themselves may think that they are holding it; but this is only because the eye shifts unconsciously, the movements being so rapid that objects seem to be seen all alike simultaneously.

The shifting of the eye with normal vision is usually not conspicuous, but by direct examination with the opthalmoscope [1] it can always be demonstrated. If one eye is examined with this instrument while the other is regarding a small area straight ahead, the eye being

1 An instrument for viewing the interior of the eye. When the optic nerve is observed with the ophthalmoscope, movements can be noted that are not apparent when only the exterior of the eye is regarded.

examined, which follows the movements of the other, is seen to move in various directions, from side to side, up and down, in an orbit which is usually variable. If the vision is normal, these movements are extremely rapid and unaccompanied by any appearance of effort. The shifting of the eye with imperfect sight, on the contrary, is slower, its excursions are wider, and the movements are jerky and made with apparent effort.

It can also be demonstrated that the eye is capable of shifting with a rapidity which the ophthalmoscope cannot measure. The normal eye can read fourteen letters on the bottom line of a Snellen test card, at a distance of ten or fifteen feet, in a dim light, so rapidly that they seem to be seen all at once. Yet it can be demonstrated that in order to recognize the letters under these conditions it is necessary to make about four shifts to each letter. At the near-point, even though one part of the letter is seen best, the rest may be seen well enough to be recognized; but at the distance it is impossible to recognize the letters unless one shifts from the top to the bottom and from side to side. One must also shift from one letter to another, making about seventy shifts in a fraction of a second.

A line of small letters on the Snellen test card may be less than a foot long by a quarter of an inch in height; and if it requires seventy shifts to a fraction of a second to see it apparently all at once, it must require many thousands to see an area of the size of the screen of a moving picture, with all its detail of people, animals, houses, or trees, while to see sixteen such areas to a second, as is done in viewing moving pictures, must require a rapidity of shifting that can scarcely be realized. Yet it is admitted that the present rate of taking and projecting moving pictures is too slow. The results would be more satisfactory, authorities say, if the rate were

raised to twenty, twenty-two, or twenty-four a second. The human eye and mind are not only capable of this rapidity of action, and that without effort or strain, but it is only when the eye is able to shift thus rapidly that eye and mind are at rest, and the efficiency of both at their maximum. It is true that every motion of the eye produces an error of refraction; but when the movement is short, this is very slight, and usually the shifts are so rapid that the error does not last long enough to be detected by the retinoscope, its existence being demonstrable only by reducing the rapidity of the movements to less than four or five a second. The period during which the eye is at rest is much longer than that during which an error of refraction is produced. Hence, when the eye shifts normally no error of refraction is manifest. The more rapid the unconscious shifting of the eye, the better the vision; but if one tries to be conscious of a too rapid shift, a strain will be produced.

Perfect sight is impossible without continual shifting, and such shifting is a striking illustration of the mental control necessary for normal vision. It requires perfect mental control to think of thousands of things in a fraction of a second; and each point of fixation has to be thought of separately, because it is impossible to think of two things, or of two parts of one thing, perfectly at the same time. The eye with imperfect sight tries to accomplish the impossible by looking fixedly at one point for an appreciable length of time; that is, by staring. When it looks at a strange letter and does not see it, it keeps on looking at it in an effort to see it better. Such efforts always fail, and are an important factor in the production of imperfect sight.

One of the best methods of improving the sight, therefore, is to imitate consciously the unconscious shifting of normal vision, and to realize the apparent motion pro-

duced by such shifting. Whether one has imperfect or normal sight, conscious shifting and swinging are a great help and advantage to the eye; for not only may imperfect sight be improved in this way, but normal sight may be improved also.

Detailed instructions for improving the sight by this method will be given in my forthcoming book, *The Cure of Imperfect Sight by Treatment without Glasses.*

OPTIMUMS AND PESSIMUMS.

In nearly all cases of imperfect sight due to errors of refraction there is some object, or objects, which can be regarded with normal vision. Such objects I have called *optimums.* On the other hand, there are some objects which persons with normal eyes and ordinarily normal sight always see imperfectly, an error of refraction being produced when they are regarded, as demonstrated by the retinoscope. Such objects I have called *pessimums.* An object becomes an optimum, or a pessimum, according to the effect it produces upon the mind, and in some cases this effect is easily accounted for.

For many children their mother's face is an optimum, and the face of a stranger a pessimum. A dressmaker was always able to thread a No. 10 needle with a fine thread of silk without glasses, although she had to put on glasses to sew on buttons, because she could not see the holes. She was a teacher of dressmaking, and thought the children stupid because they could not tell the difference between two different shades of black. She could match colors without comparing the samples. Yet she could not see a black line in a photographic copy of the Bible which was no finer than a thread of silk, and she could not remember a black period. An employee in a cooperage factory, who had been engaged for years in picking out defective barrels as they went rapidly past him on an inclined plane, was able to

continue his work after his sight for most other objects had become very defective, while persons with much better sight for the Snellen test card were unable to detect the defective barrels. The familiarity of these various objects made it possible for the subjects to look at them without strain—that is, without trying to seem them. Therefore the barrels were to the cooper optimums; while the needle's eye and the colors of silk and fabrics were optimums to the dressmaker. Unfamiliar objects, on the contrary, are always pessimums.

In other cases there is no accounting for the idiosyncracy of the mind which makes one object a pessimum and another an optimum. It is also impossible to account for the fact that an object may be an optimum for one eye and not for the other, or an optimum at one time and at one distance and not at others. Among these unaccountable optimums one often finds a particular letter on the Snellen test card. One patient, for instance, was able to see the letter K on the forty, fifteen and ten lines, but could see none of the other letters on these lines, although most patients would see some of them, on account of the simplicity of their outlines, better than they would such a letter as K.

Pessimums may be as curious and unaccountable as optimums. The letter V is so simple in its outlines that many people can see it when they cannot see others on the same line. Yet some people are unable to distinguish it at any distance, although able to read other letters in the same word, or on the same line of the Snellen test card. Some people again will not only be unable to recognize the letter V in a word, but also to read any word that contains it, the pessimum lowering their sight not only for itself but for other objects. Some letters, or objects, become pessimums only in particular situations. A letter, for instance, may be a pessimum when located at the end, or at the

beginning of a line, or sentence, and not in other places. When the attention of the patient is called to the fact that a letter seen in one location ought logically to be seen equally well in others, the letter often ceases to be a pessimum in any situation.

A pessimum, like an optimum, may be lost and later become manifest. It may vary according to the light and distance. An object which is a pessimum in a moderate light may not be so when the light is increased or diminished. A pessimum at twenty feet may not be one at two feet, or thirty feet, and an object which is a pessimum when directly regarded may be seen with normal vision in the eccentric field—that is, when not directly regarded.

For most people the Snellen test card is a pessimum. If you can see the Snellen test card with normal vision, you can see almost anything else in the world. Patients who cannot see the letters on the Snellen test card can often see other objects of the same size and at the same distance with normal sight. When letters which are seen imperfectly, or even letters which cannot be seen at all, or which the patient is not conscious of seeing, are regarded, the error of refraction is increased. The patient may regard a blank white card without any error of refraction; but if he regards the lower part of a Snellen test card, which appears to him to be just as blank as the blank card, an error of refraction can always be demonstrated, and if the visible letters of the card are covered the result is the same. The pessimum may, in short, be letters or objects which the patient is not conscious of seeing. This phenomenon is very common. When the card is seen in the eccentric field it may have the effect of lowering the vision for the point directly regarded. For instance, a patient may regard an area of green wall-paper at the distance, and see the color as well as at the near-point; but if a

Snellen test card on which the letters are either seen imperfectly, or not seen at all, is placed in the neighborhood of the area being regarded, the retinoscope may indicate an error of refraction. When the vision improves, the number of letters on the card which are pessimums diminishes and the number of optimums increases, until the whole card becomes an optimum.

A pessimum, like an optimum, is a manifestation of the mind. It is something associated with a strain to see, just as an optimum is something which has no such association. It is not caused by the error of refraction, but always produces an error of refraction; and when the strain has been relieved it ceases to be a pessimum and becomes an optimum.

HOME TREATMENT

It is not always possible for patients to go to a competent physician for relief. As the method of treating eye defects presented in this magazine is new, it may be impossible to find a physician in the neighborhood who understands it; and the patient may not be able to afford the expense of a long journey, or to take the time for treatment away from home. To such persons I wish to say that it is possible for a large number of people to be cured of defective eyesight without the aid either of a physician or of anyone else. They can cure themselves, and for this purpose it is not necessary that they should understand all that has been written in this magazine, or anywhere else. All that is necessary is to follow a few simple directions.

Place a Snellen test card on the wall at a distance of ten, fourteen, or twenty feet, and devote half a minute a day, or longer, to reading the smallest letters you can see, with each eye separately, covering the other with the palm of the hand in such a way as to avoid touching the eyeball.

Keep a record of the progress made, with the dates. The simplest way to do this is by the method used by oculists, who record the vision in the form of a fraction, with the distance at which the letter is read as the numerator and the distance at which it ought to be read as the denominator. As already explained, the figures above the lines of letters on the test card indicate the distance at which these letters should be read by persons with normal eyesight. Thus a vision of 10/200 would mean that the big C, which ought to be read at 200 feet, cannot be seen at a greater distance than ten feet. A vision of 20/10 would mean that the ten line, which the normal eye is not ordinarily expected to read at a greater distance than ten feet, is seen at double that distance. This is a standard commonly attained by persons who have practiced my methods.

Children under twelve years who have not worn glasses are usually cured of defective eyesight by the above method in three months, six months, or a year. Adults who have never worn glasses are benefited in a very short time—a week or two—and if the trouble is not very bad, may be cured in the course of from three to six months. Children or adults who have worn glasses, however, are more difficult to relieve, and will usually have to practice the various methods of gaining relaxation which have been presented from month to month in this magazine and will be described in more detail in my forthcoming book, *The Cure of Imperfect Sight by Treatment without Glasses.*

It is absolutely necessary that the glasses be discarded. No half-way measures can be tolerated, if a cure is desired. Do not attempt to wear weaker glasses, and do not wear glasses for emergencies. Persons who are unable to do without glasses are not likely to be able to cure themselves.

Children and adults who have worn glasses will have to devote an hour or longer every day to practice with the test card and the balance of their time to practice on other objects. It will be well for such patients to have two test cards, one to be used at the near-point, where it can be seen best, and the other at ten or twenty feet. The patient will find it a great help to shift from the near card to the distant one, as the unconscious memory of the letters seen at the near-point helps to bring out those seen at the distance.

If the patient can secure the aid of some person with normal sight, it will be a great advantage. In fact, persons whose cases are obstinate will find it very difficult, if not impossible, to cure themselves without the aid of a teacher. The teacher, if he is to benefit the patient, must himself be able to derive benefit from the various methods recommended. If his vision is 10/10, he must be able to improve it to 20/10, or more. If he can read fine print at twelve inches, he must become able to read it at six, or at three inches. He must also have sufficient control over his visual memory to relieve and prevent pain.

Parents who wish to preserve and improve the eyesight of their children should encourage them to read the Snellen test card every day. There should, in fact, be a Snellen test card in every family; for when properly used it always prevents myopia and other errors of refraction, always improves the vision, even when this is already normal, and always benefits functional nervous troubles. Parents should improve their own eyesight to normal, so that their children may not imitate wrong methods of using the eyes and will not be subject to the influence of an atmosphere of strain.

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $5, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. II JANUARY, 1920 No. 1

The Palming Cure

The Variability of the Refraction of the Eye

How Long Will It Take?

Relief After Twenty-five Years

Facts Versus Theories

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. V DECEMBER, 1921 No. 6

Think Right

The Correction of Imperfect Sight Without Glasses
By Dr. Etha Marion Jones

Mental Control in Relation to Vision
By W. H. Bates, M. D.

Christmas at the Clinic
By Emily C. Lierman

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
300 MADISON AVENUE NEW YORK, N. Y.

Doctors are needed all over the world to cure people without glasses

THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

VOL. V. DECEMBER, 1921 No. 6

THE CORRECTION OF IMPERFECT SIGHT WITHOUT GLASSES

By Dr. Etha Marion Jones

THE correction of imperfect sight by Central Fixation, as taught by Dr. Bates, first came under my observation one year ago this September while assisting for a month in the practice of my friends, Drs. H. S. and Jennie K. Beckler, of Staunton, Virginia. I was astonished at the results they were obtaining in eye cases and at once began to study the system under their supervision.

About the same time I received a letter from a sister of mine, a teacher in the Detroit Public Schools, who had worn glasses for twenty years for myopia and astigmatism. She stated in her letter that she had discarded her glasses and was taking the Central Fixation treatment from an osteopathic physician in Detroit who had been a student of Dr. Bates. The treatment was continued during the winter, my sister keeping right on with her school work and doing extra reading at night without suffering with headaches as she had previously done. On seeing her this summer I was agreeably surprised at the change in her appearance. The strained look

Copyright, 1921, by the Central Fixation Publishing Company

about the eyes and face had given place to one of relaxation, the eyes were straight, and the nervous system had lost its tension and gained a poise formerly unknown. The retinoscope showed no errors of refraction in either eye.

Encouraged by this and other cases, I decided to prepare myself to specialize in this work. After studying the anatomy, pathology and physiology of the eye all last winter, and treating several patients as best I could with my limited knowledge of the system, I decided that what I now needed most was a course of personal instruction from Dr. Bates. I went to New York for this purpose a few months ago and spent a wonderful fortnight there. The course included work in Dr. Bates' clinic held three times a week in the Harlem Hospital. The hospital being in one of the colored sections of the city, many of the patients are negroes, and they are very appreciative, too; but both white and colored come in droves to be cured of all kinds of eye afflictions. Here I had a good opportunity to study eyes by means of the retinoscope and ophthalmoscope, and I observed the changes in the refraction and pathology as the treatment progressed. I can tell of only a few of the remarkable cases which I saw, for it would take days to tell about them all.

I was especially interested in a case of squint in a girl of fourteen, who had been attending the clinic about three months before I saw her. She had worn glasses since she was four years of age to correct the trouble, but had been growing gradually worse. When her sight was first tested she read 12/40 with her left or better eye. When asked to read the card with her squinting eye, she turned her head half way around to the left in trying to see it. Mrs. Lierman gave her one simple relaxing exercise to do and left her for a few minutes. At the next test she read 12/40 with the squinting eye without turning her head. Of course, that was temporary relief, as on straining again the squint would

recur; but it showed what could be done by continuous treatment, and when I left New York the right eye was as straight as the left and did not change when the patient was excited or annoyed, or on reading or studying. She told me she could read or study for hours at a time without headaches or discomfort, while before coming to the clinic she could look at a book for only a few minutes at a time.

A negress, seventy-two years old, was responding wonderfully to treatment for cataract in the advanced stage. She had been in the clinic for two months. At first she could not distinguish the large C at the top of the test card. Before I left she could read 10/40 with both eyes.

A girl of twelve was suffering from retinitis pigmentosa, a condition generally pronounced incurable, in which spots of black pigment are deposited in the retina, parts of the retina destroyed and the nerve of sight diseased. On examination by the test card, the patient could read only the seventy line at five feet. Nystagmus was one of her worst symptoms, the eyes vibrating continually from side to side. She was extremely nervous, and very sensitive in regard to her condition, the slightest annoyance making her worse. At the first treatment, the nystagmus temporarily stopped, and she read the fifty line instead of the seventy at five feet. The last day I saw her at the clinic she could read the twenty line through at ten feet, and the nystagmus had entirely disappeared.

After seeing these things it would seem impossible for anyone to doubt that Dr. Bates' discoveries are bound, before long, to revolutionize the practice of ophthalmology. They offer hope to millions for whom formerly there was no hope, and I am glad to have a share in the wonderful work of making them available to the world of eye sufferers.

470 First Avenue, North, St. Petersburg, Fla.

MENTAL CONTROL IN RELATION TO VISION

By W. H. Bates, M.D.

THE eye with perfect sight is always at rest. When it begins to strain the sight becomes imperfect. The eye with imperfect sight is always straining, and when it ceases to do so the sight becomes normal. These conditions of rest and unrest are reflections of the mind. In other words, they indicate the presence or absence of mental control.

When the mind is not under control the memory or imagination is impaired. Therefore one cannot at the moment of seeing something imperfectly form a perfect mental picture. A person with perfect sight can remember a color, a yellow flower, a red piece of cloth, a letter of small print, a black period, a white cloud in the sky, just as well with the eyes open and looking at the Snellen test card, or reading a printed page, as with his eyes closed. A person with imperfect sight either cannot do this at all, or can do it only under certain favorable conditions, as with his eyes closed, or when looking at objects at certain distances. A near-sighted person may retain his mental control and consequent ability to form mental pictures when reading fine print at six inches, but may lose both at five inches, or when looking at certain letters on the distant Snellen test card. Some patients have a good imagination and normal sight in the daytime, but lose both by artificial light. Others have normal vision and a good imagination only when the light is dim. One patient had imperfect sight (20/70) corrected by concave 6.00 D. S. in ordinary daylight, but when the light was dim her vision became normal (20/20) without glasses, and her mental pictures were just as good when her eyes were open as when they were closed. She became able, by means of sun-gazing, to remember, with her eyes open, a black period in the bright

outdoor sunshine, when her vision, tested with the Snellen test card, became normal in ordinary daylight.

Many cases of imperfect sight have been cured simply by having the patient demonstrate these facts. One patient had vision of 20/200 without glasses. She was near-sighted and could read fine print at a near point without trouble. She was asked to look at a small letter *o*. The question was asked:

"Can you see the letter easily and continuously?"

"Yes," she answered.

She could also, with eyes closed, remember it without difficulty and imagine the white center much whiter than the white card on which it was printed. With some encouragement she became able to realize that she did not imagine the letter all alike; that she saw one part best, and that she did not imagine the same part best very long at a time; that her attention was constantly shifting; and that the small letter was moving slowly, easily, rhythmically, continuously, a very short distance from side to side, the movement being so inconspicuous that she would not have noted it if her attention had not been called to the fact. When she tried to keep her attention on one small part of the letter continuously for a few seconds, or part of a minute, she noted that this could not be done without effort, her mind tired, her eyes pained, although they were closed, and she lost the memory of the letter.

With her eyes open she then demonstrated that her sight was the same as her memory with her eyes closed. When she tried to keep her attention fixed on one part of the letter the movement from side to side stopped, she experienced a sense of effort, her head began to ache, the letter blurred, all parts of it looked alike, and soon it disappeared. She was reminded that when she saw the letter distinctly, or when she imagined it perfectly, she did it easily, without effort, without strain, without any trouble or hard work whatever; but that when she saw, or imagined it imperfectly, she made a great effort.

The letters on the distant Snellen test card appeared gray and blurred to her, and all parts of each letter looked alike. Even the large letter that she could distinguish was blurred, with a gray outline, and was not as black as the small letters of the fine print which she read so easily. Her attention was called to the great difference between the size of the letters on the Snellen test card and those of the fine print, and I suggested that if she saw the larger letters on the test card gray, while the smaller letters of the fine print looked black to her, it must be because she was imagining them to be gray. I also said that if she could imagine the white openings of the small letters to be whiter than they really were, she ought to be able to do the same thing with the larger white spaces of the larger letters. Thus she was led to realize that a large part of what she saw on both the large and the small card was imaginary, and that she ought to be able to use her imagination to improve her sight when looking at the large card, as she did when looking at the small one, instead of to spoil it, as she was then doing. Having demonstrated these facts she soon became able to retain her mental control when looking at distant objects, and was permanently cured.

One of the worst cases of pain and fatigue which I ever saw occurred in a young man who lived several thousand miles from New York, and came here as a last resort in the hope of being relieved of the misery he had endured as long as he could remember. The history of his treatment by numerous physicians, mostly ophthalmologists, would make an interesting story, but it is too long to be recounted here. On testing his sight I was surprised to find it good. He read the twenty line of the Snellen test card at twenty feet, and also read the finest print at various distances. At this time he had no pain. When the pain came on, however, his vision became imperfect, and as the pain was almost continuous, he said he suffered from imperfect sight most of the time. I

asked him why he did not maintain his good sight continuously when he obtained so much relief from it. He replied that he was unable to do so.

He had lost his mental control to such an extent that even with his eyes closed he was unable to visualize his own signature, and when he attempted to do so and failed, the pain in his eyes and head became much worse. I had him look at a large letter on the Snellen test card and observe its white center, which he was able to see whiter than the rest of the card. I told him that the white center of the letter was not whiter than the rest of the card and that he only imagined it so. Then I asked him if he could imagine the white center as white as snow with the sun shining on it—a dazzling white. He answered:

"Yes, I can imagine it as white as the snow on the top of the mountains near my home."

I told him that he had formed a mental picture of the snow-capped mountain, by the aid of his memory or imagination, and that having done this with his eyes open, he ought to be able to visualize the mountain with his eyes closed. Much to my gratification he was able to do this for part of a minute, and to imagine not only the white snow on top of the mountain but also other parts of it as well. Then he demonstrated that he could imagine one part best of the snow-cap, but that when he tried to imagine it all at once the mental picture disappeared and his pain increased. To see one part at a time of the snow-cap was easy and his pain was relieved. To see all parts at the same time was impossible, and trying to do the impossible was a strain which produced pain. In other words to lose his mental picture of the mountain required an effort, a very great effort which tore the nerves of his eyes and head all to pieces.

With this demonstration as a beginning, he became able to form mental pictures of other objects. The most difficult

thing of all was for him to imagine printed or written letters, but this was finally accomplished, and his mental control, and consequently his mental pictures, became normal. With his eyes closed he is now able to remember or imagine large or small letters as well as he can see them with his eyes open. His pain is entirely relieved and—what pleased him most—his vision has improved to 20/10, double the accepted standard of normality.

STORIES FROM THE CLINIC

22: Christmas at the Clinic

By Emily C. Lierman

THROUGHOUT the civilized world Christmas is recognized as the children's day. To hosts of boys and girls it seems the most wonderful day in the year; but there are other little folks—all too many of them—who do not know its meaning, whom Santa Claus seems to have quite forgotten.

This fact was brought home to me very forcibly during my first Christmas at the clinic, seven years ago. A boy of seven came with his sister, a little girl of five, for treatment. Both the children were thinly clad and far from clean, and seemed to feel perfectly at home near a warm radiator. There was nothing wrong with the girl's eyes, but the boy had a severe inflammation of the eyelids, along with a squint of the right eye. I was not surprised to find later that this inflammation was caused by uncleanliness. As I was about to treat him I asked him what he expected Santa Claus to give him. The time was two weeks before Christmas. He looked up and said:

"Oh, he aint never came to our house! I only sees him in the store windows."

"But you have a Christmas tree on Christmas eve, don't you?" I asked.

"Nope," said he, "we never had none."

I began to think I wanted to use my influence with Santa Claus on behalf of this neglected waif, but my present business was to treat him. No, I did not begin with palming this time. I washed his eyes and face with water, and judging by the color of the towel when the operation was over I should say that he had not been washed for six months or so. I now tested his sight, and with both eyes he read the ten line at fifteen feet. Then I covered his good eye, and with the squinting eye, the right, he read the seventy line (15/70). I now showed him how to palm, and while his eyes were covered I told him the story of the Babe of Bethlehem. This worked like a charm, and in less than ten minutes his right eye improved to 15/30. The little fellow promised to cover his eyes to rest them many times each day; and I promised that Santa Claus would surely have a present for him at Christmas.

The progress he made was astonishing. I learned later that his father was in jail for theft, and that he had to mother his little sister and baby brother while his sickly mother went out to work; yet he found time to practice, and before Christmas he had normal vision in both eyes, though the right eye turned in at times the least little bit. As for the inflammation, it had completely disappeared under the influence of the sun treatment.

The day before Christmas I bought a Christmas tree and filled a big basket with good things to eat and a little gift for each child in the family of my little patient, and in the evening I took them to his home. The poverty I found there wrung my heart, but I had the gratification of knowing that the children at least would have a happy Christmas. The

sight of the Christmas tree filled them with rapture too great for speech, and the gratitude of the mother was pathetic.

Shortly afterward the boy's visits to the clinic ceased, and going to his home I found the scanty belongings of the family upon the sidewalk, all covered with freshly fallen snow. Next day I went again, and was told by the neighbors that the mother was in a hospital and that the children had been placed by a charitable society in an institution.

I never saw nor heard of my patient again, but he inspired me with the idea of trying to make my family at the clinic happy at Christmas time, and incidentally I found that Santa Claus was an invaluable assistant, taking the place of baseball at other seasons. Mothers often tell me that Jimmie or Johnnie will not behave long enough for me to treat him. Well, I listen, of course, and then I begin to talk baseball or Santa Claus, according to the season of the year, and I have known the most restless of small boys to sit on a stool, or stand in a corner, for ten minutes without moving while I told of the night before Christmas, or related some incident of the baseball field. It is astonishing the interest a small boy takes in baseball. Nine times out of ten when I ask a boy to imagine something perfectly he will say:

"I can imagine a baseball very well."

I think if Babe Ruth knew how these infants admire him, he would provide seats for about a thousand of them at some of his games just for the sake of having a group of pre-eminently enthusiastic rooters on the bleachers. I think, too, that he wouldn't mind playing Santa Claus and providing baseballs for some of my patients. I am sure nothing would make them happier, even though baseballs are of very little use in a city that does not provide enough playgrounds for its children, and where the police will not let you play baseball in the streets.

However, this is a digression. Santa Claus, as I said, is a fair rival of baseball, and appeals to girls and boys alike. I begin in September to talk about the visit he makes to the clinic every year, and the result is magical.

Joseph, nine years old, was quite unmanageable at first, and could not be enticed to palm, nor even to stand still long enough for me to test him. I finally got tired of coaxing him, and told him to wait until others had been treated. His mother, a very nervous woman, wanted to thrash him, but the little fellow didn't seem to mind that a bit. He had been sent by the school nurse for glasses, and was so sensitive to light that he could only partly open his eyes. When I was able to get back to him I said:

"If you will read this card for me and do as I tell you, I will have you come here the day before Christmas when Santa Claus will give you something nice."

It worked splendidly. He read the card with both eyes together and each eye separately, getting most of the letters on the forty line at twelve feet. He palmed when I showed him how, and before he left his sight had improved to 12/20. After he had palmed for ten minutes or so his mother remarked on how wide open his eyes were. Joseph came quite regularly after that, and was so grateful for the gift Santa Claus brought him at Christmas that, even though he was cured in a few weeks, he continued to come just to say "Hello" to the Doctor and myself.

One day, shortly before Christmas, a little girl came for treatment. Her age I cannot exactly remember, but should imagine it was nine or ten years. Her wistful eyes looked up into mine, and I guessed that she was very poor and lonely. She told me that her mother and father were both dead and that a kind neighbor who already had nine children was mothering her too. I knew just what I would

like to have had Santa Claus give her, and tried to figure out just how much I could stretch my Christmas fund so that I could buy clothes and shoes for this little girl. It could not be done; but I doubt if these useful things would have made her as happy as the dolly and the necklace which I ultimately gave her, and which cost only a trifle. Like the children in the first story she was so overcome with joy that she could scarcely talk.

There was nothing seriously wrong with her eyes, but she was under a nervous strain which caused her sight to blur at times. I soon corrected this, and she was very happy when told that she didn't need glasses.

I must add that the adult patients are not forgotten at Christmas time. Each one gets a box of candy and an orange, and they all leave the clinic with a smile that won't come off; all of which, I am sure, is good for their eyes. My family seems to grow each year, but somehow I always find the money for the annual distribution of Christmas joy. A good many of the patients buy Snellen test cards to practice with at home, and all this money goes into the Christmas fund; then checks come from various sources—sometimes at the last moment. To all who have so generously helped me in this way I want to say:

"I thank you from the bottom of my heart, and wish you all a merry Christmas and a happy New Year."

QUESTION AND ANSWERS

Our readers are invited to send in questions regarding any difficulties they may experience in using the various methods of treatment which it recommends. These will be answered as promptly as possible, in the magazine, if space permits, otherwise by mail. Kindly enclose a stamped, addressed envelope.

READ

The Anatomy and Physiology of the Eye

By W. H. BATES, M.D.

This is the first of the series of articles beginning in the current number of Rational Living.

Address:

RATIONAL LIVING, 61 Hamilton Pl., New York

Price: 40 cents a copy; $4.00 a year.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten. fifteen, or twenty feet.

For Sale By

The Central Fixation Publishing Company

Paper ....50 Cents

Cardboard (folding) .....75 Cents

DELIVERED

Back numbers BETTER EYESIGHT.....$ .30

Bound vols., 1st and 2nd years, each..... 4.25

Photographic reductions of the Bible..... 4.00

Ophthalmoscopes (best quality) 4.00

Burning glasses 4.00

Reprints of articles by Dr. Bates in other medical journals, a limited number for sale. Send for list.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. V DECEMBER, 1921 No. 6

Think Right

The Correction of Imperfect Sight Without Glasses
By Dr. Etha Marion Jones

Mental Control in Relation to Vision
By W. H. Bates, M. D.

Christmas at the Clinic
By Emily C. Lierman

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
300 MADISON AVENUE NEW YORK, N. Y.

Doctors are needed all over the world to cure people without glasses

THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. V. DECEMBER, 1921 No. 6

THE CORRECTION OF IMPERFECT SIGHT WITHOUT GLASSES

By Dr. Etha Marion Jones

THE correction of imperfect sight by Central Fixation, as taught by Dr. Bates, first came under my observation one year ago this September while assisting for a month in the practice of my friends, Drs. H. S. and Jennie K. Beckler, of Staunton, Virginia. I was astonished at the results they were obtaining in eye cases and at once began to study the system under their supervision.

About the same time I received a letter from a sister of mine, a teacher in the Detroit Public Schools, who had worn glasses for twenty years for myopia and astigmatism. She stated in her letter that she had discarded her glasses and was taking the Central Fixation treatment from an osteopathic physician in Detroit who had been a student of Dr. Bates. The treatment was continued during the winter, my sister keeping right on with her school work and doing extra reading at night without suffering with headaches as she had previously done. On seeing her this summer I was agreeably surprised at the change in her appearance. The strained look

Copyright, 1921, by the Central Fixation Publishing Company

about the eyes and face had given place to one of relaxation, the eyes were straight, and the nervous system had lost its tension and gained a poise formerly unknown. The retinoscope showed no errors of refraction in either eye.

Encouraged by this and other cases, I decided to prepare myself to specialize in this work. After studying the anatomy, pathology and physiology of the eye all last winter, and treating several patients as best I could with my limited knowledge of the system, I decided that what I now needed most was a course of personal instruction from Dr. Bates. I went to New York for this purpose a few months ago and spent a wonderful fortnight there. The course included work in Dr. Bates' clinic held three times a week in the Harlem Hospital. The hospital being in one of the colored sections of the city, many of the patients are negroes, and they are very appreciative, too; but both white and colored come in droves to be cured of all kinds of eye afflictions. Here I had a good opportunity to study eyes by means of the retinoscope and ophthalmoscope, and I observed the changes in the refraction and pathology as the treatment progressed. I can tell of only a few of the remarkable cases which I saw, for it would take days to tell about them all.

I was especially interested in a case of squint in a girl of fourteen, who had been attending the clinic about three months before I saw her. She had worn glasses since she was four years of age to correct the trouble, but had been growing gradually worse. When her sight was first tested she read 12/40 with her left or better eye. When asked to read the card with her squinting eye, she turned her head half way around to the left in trying to see it. Mrs. Lierman gave her one simple relaxing exercise to do and left her for a few minutes. At the next test she read 12/40 with the squinting eye without turning her head. Of course, that was temporary relief, as on straining again the squint would

recur; but it showed what could be done by continuous treatment, and when I left New York the right eye was as straight as the left and did not change when the patient was excited or annoyed, or on reading or studying. She told me she could read or study for hours at a time without headaches or discomfort, while before coming to the clinic she could look at a book for only a few minutes at a time.

A negress, seventy-two years old, was responding wonderfully to treatment for cataract in the advanced stage. She had been in the clinic for two months. At first she could not distinguish the large C at the top of the test card. Before I left she could read 10/40 with both eyes.

A girl of twelve was suffering from retinitis pigmentosa, a condition generally pronounced incurable, in which spots of black pigment are deposited in the retina, parts of the retina destroyed and the nerve of sight diseased. On examination by the test card, the patient could read only the seventy line at five feet. Nystagmus was one of her worst symptoms, the eyes vibrating continually from side to side. She was extremely nervous, and very sensitive in regard to her condition, the slightest annoyance making her worse. At the first treatment, the nystagmus temporarily stopped, and she read the fifty line instead of the seventy at five feet. The last day I saw her at the clinic she could read the twenty line through at ten feet, and the nystagmus had entirely disappeared.

After seeing these things it would seem impossible for anyone to doubt that Dr. Bates' discoveries are bound, before long, to revolutionize the practice of ophthalmology. They offer hope to millions for whom formerly there was no hope, and I am glad to have a share in the wonderful work of making them available to the world of eye sufferers.

470 First Avenue, North, St. Petersburg, Fla.

MENTAL CONTROL IN RELATION TO VISION

By W. H. Bates, M.D.

THE eye with perfect sight is always at rest. When it begins to strain the sight becomes imperfect. The eye with imperfect sight is always straining, and when it ceases to do so the sight becomes normal. These conditions of rest and unrest are reflections of the mind. In other words, they indicate the presence or absence of mental control.

When the mind is not under control the memory or imagination is impaired. Therefore one cannot at the moment of seeing something imperfectly form a perfect mental picture. A person with perfect sight can remember a color, a yellow flower, a red piece of cloth, a letter of small print, a black period, a white cloud in the sky, just as well with the eyes open and looking at the Snellen test card, or reading a printed page, as with his eyes closed. A person with imperfect sight either cannot do this at all, or can do it only under certain favorable conditions, as with his eyes closed, or when looking at objects at certain distances. A near-sighted person may retain his mental control and consequent ability to form mental pictures when reading fine print at six inches, but may lose both at five inches, or when looking at certain letters on the distant Snellen test card. Some patients have a good imagination and normal sight in the daytime, but lose both by artificial light. Others have normal vision and a good imagination only when the light is dim. One patient had imperfect sight (20/70) corrected by concave 6.00 D. S. in ordinary daylight, but when the light was dim her vision became normal (20/20) without glasses, and her mental pictures were just as good when her eyes were open as when they were closed. She became able, by means of sun-gazing, to remember, with her eyes open, a black period in the bright

outdoor sunshine, when her vision, tested with the Snellen test card, became normal in ordinary daylight.

Many cases of imperfect sight have been cured simply by having the patient demonstrate these facts. One patient had vision of 20/200 without glasses. She was near-sighted and could read fine print at a near point without trouble. She was asked to look at a small letter *o*. The question was asked:

"Can you see the letter easily and continuously?"

"Yes," she answered.

She could also, with eyes closed, remember it without difficulty and imagine the white center much whiter than the white card on which it was printed. With some encouragement she became able to realize that she did not imagine the letter all alike; that she saw one part best, and that she did not imagine the same part best very long at a time; that her attention was constantly shifting; and that the small letter was moving slowly, easily, rhythmically, continuously, a very short distance from side to side, the movement being so inconspicuous that she would not have noted it if her attention had not been called to the fact. When she tried to keep her attention on one small part of the letter continuously for a few seconds, or part of a minute, she noted that this could not be done without effort, her mind tired, her eyes pained, although they were closed, and she lost the memory of the letter.

With her eyes open she then demonstrated that her sight was the same as her memory with her eyes closed. When she tried to keep her attention fixed on one part of the letter the movement from side to side stopped, she experienced a sense of effort, her head began to ache, the letter blurred, all parts of it looked alike, and soon it disappeared. She was reminded that when she saw the letter distinctly, or when she imagined it perfectly, she did it easily, without effort, without strain, without any trouble or hard work whatever; but that when she saw, or imagined it imperfectly, she made a great effort.

The letters on the distant Snellen test card appeared gray and blurred to her, and all parts of each letter looked alike. Even the large letter that she could distinguish was blurred, with a gray outline, and was not as black as the small letters of the fine print which she read so easily. Her attention was called to the great difference between the size of the letters on the Snellen test card and those of the fine print, and I suggested that if she saw the larger letters on the test card gray, while the smaller letters of the fine print looked black to her, it must be because she was imagining them to be gray. I also said that if she could imagine the white openings of the small letters to be whiter than they really were, she ought to be able to do the same thing with the larger white spaces of the larger letters. Thus she was led to realize that a large part of what she saw on both the large and the small card was imaginary, and that she ought to be able to use her imagination to improve her sight when looking at the large card, as she did when looking at the small one, instead of to spoil it, as she was then doing. Having demonstrated these facts she soon became able to retain her mental control when looking at distant objects, and was permanently cured.

One of the worst cases of pain and fatigue which I ever saw occurred in a young man who lived several thousand miles from New York, and came here as a last resort in the hope of being relieved of the misery he had endured as long as he could remember. The history of his treatment by numerous physicians, mostly ophthalmologists, would make an interesting story, but it is too long to be recounted here. On testing his sight I was surprised to find it good. He read the twenty line of the Snellen test card at twenty feet, and also read the finest print at various distances. At this time he had no pain. When the pain came on, however, his vision became imperfect, and as the pain was almost continuous, he said he suffered from imperfect sight most of the time. I

asked him why he did not maintain his good sight continuously when he obtained so much relief from it. He replied that he was unable to do so.

He had lost his mental control to such an extent that even with his eyes closed he was unable to visualize his own signature, and when he attempted to do so and failed, the pain in his eyes and head became much worse. I had him look at a large letter on the Snellen test card and observe its white center, which he was able to see whiter than the rest of the card. I told him that the white center of the letter was not whiter than the rest of the card and that he only imagined it so. Then I asked him if he could imagine the white center as white as snow with the sun shining on it—a dazzling white. He answered:

"Yes, I can imagine it as white as the snow on the top of the mountains near my home."

I told him that he had formed a mental picture of the snow-capped mountain, by the aid of his memory or imagination, and that having done this with his eyes open, he ought to be able to visualize the mountain with his eyes closed. Much to my gratification he was able to do this for part of a minute, and to imagine not only the white snow on top of the mountain but also other parts of it as well. Then he demonstrated that he could imagine one part best of the snow-cap, but that when he tried to imagine it all at once the mental picture disappeared and his pain increased. To see one part at a time of the snow-cap was easy and his pain was relieved. To see all parts at the same time was impossible, and trying to do the impossible was a strain which produced pain. In other words to lose his mental picture of the mountain required an effort, a very great effort which tore the nerves of his eyes and head all to pieces.

With this demonstration as a beginning, he became able to form mental pictures of other objects. The most difficult

thing of all was for him to imagine printed or written letters, but this was finally accomplished, and his mental control, and consequently his mental pictures, became normal. With his eyes closed he is now able to remember or imagine large or small letters as well as he can see them with his eyes open. His pain is entirely relieved and—what pleased him most—his vision has improved to 20/10, double the accepted standard of normality.

STORIES FROM THE CLINIC

22: Christmas at the Clinic

By Emily C. Lierman

THROUGHOUT the civilized world Christmas is recognized as the children's day. To hosts of boys and girls it seems the most wonderful day in the year; but there are other little folks—all too many of them—who do not know its meaning, whom Santa Claus seems to have quite forgotten.

This fact was brought home to me very forcibly during my first Christmas at the clinic, seven years ago. A boy of seven came with his sister, a little girl of five, for treatment. Both the children were thinly clad and far from clean, and seemed to feel perfectly at home near a warm radiator. There was nothing wrong with the girl's eyes, but the boy had a severe inflammation of the eyelids, along with a squint of the right eye. I was not surprised to find later that this inflammation was caused by uncleanliness. As I was about to treat him I asked him what he expected Santa Claus to give him. The time was two weeks before Christmas. He looked up and said:

"Oh, he aint never came to our house! I only sees him in the store windows."

"But you have a Christmas tree on Christmas eve, don't you?" I asked.

"Nope," said he, "we never had none."

I began to think I wanted to use my influence with Santa Claus on behalf of this neglected waif, but my present business was to treat him. No, I did not begin with palming this time. I washed his eyes and face with water, and judging by the color of the towel when the operation was over I should say that he had not been washed for six months or so. I now tested his sight, and with both eyes he read the ten line at fifteen feet. Then I covered his good eye, and with the squinting eye, the right, he read the seventy line (15/70). I now showed him how to palm, and while his eyes were covered I told him the story of the Babe of Bethlehem. This worked like a charm, and in less than ten minutes his right eye improved to 15/30. The little fellow promised to cover his eyes to rest them many times each day; and I promised that Santa Claus would surely have a present for him at Christmas.

The progress he made was astonishing. I learned later that his father was in jail for theft, and that he had to mother his little sister and baby brother while his sickly mother went out to work; yet he found time to practice, and before Christmas he had normal vision in both eyes, though the right eye turned in at times the least little bit. As for the inflammation, it had completely disappeared under the influence of the sun treatment.

The day before Christmas I bought a Christmas tree and filled a big basket with good things to eat and a little gift for each child in the family of my little patient, and in the evening I took them to his home. The poverty I found there wrung my heart, but I had the gratification of knowing that the children at least would have a happy Christmas. The

sight of the Christmas tree filled them with rapture too great for speech, and the gratitude of the mother was pathetic.

Shortly afterward the boy's visits to the clinic ceased, and going to his home I found the scanty belongings of the family upon the sidewalk, all covered with freshly fallen snow. Next day I went again, and was told by the neighbors that the mother was in a hospital and that the children had been placed by a charitable society in an institution.

I never saw nor heard of my patient again, but he inspired me with the idea of trying to make my family at the clinic happy at Christmas time, and incidentally I found that Santa Claus was an invaluable assistant, taking the place of baseball at other seasons. Mothers often tell me that Jimmie or Johnnie will not behave long enough for me to treat him. Well, I listen, of course, and then I begin to talk baseball or Santa Claus, according to the season of the year, and I have known the most restless of small boys to sit on a stool, or stand in a corner, for ten minutes without moving while I told of the night before Christmas, or related some incident of the baseball field. It is astonishing the interest a small boy takes in baseball. Nine times out of ten when I ask a boy to imagine something perfectly he will say:

"I can imagine a baseball very well."

I think if Babe Ruth knew how these infants admire him, he would provide seats for about a thousand of them at some of his games just for the sake of having a group of pre-eminently enthusiastic rooters on the bleachers. I think, too, that he wouldn't mind playing Santa Claus and providing baseballs for some of my patients. I am sure nothing would make them happier, even though baseballs are of very little use in a city that does not provide enough playgrounds for its children, and where the police will not let you play baseball in the streets.

However, this is a digression. Santa Claus, as I said, is a fair rival of baseball, and appeals to girls and boys alike. I begin in September to talk about the visit he makes to the clinic every year, and the result is magical.

Joseph, nine years old, was quite unmanageable at first, and could not be enticed to palm, nor even to stand still long enough for me to test him. I finally got tired of coaxing him, and told him to wait until others had been treated. His mother, a very nervous woman, wanted to thrash him, but the little fellow didn't seem to mind that a bit. He had been sent by the school nurse for glasses, and was so sensitive to light that he could only partly open his eyes. When I was able to get back to him I said:

"If you will read this card for me and do as I tell you, I will have you come here the day before Christmas when Santa Claus will give you something nice."

It worked splendidly. He read the card with both eyes together and each eye separately, getting most of the letters on the forty line at twelve feet. He palmed when I showed him how, and before he left his sight had improved to 12/20. After he had palmed for ten minutes or so his mother remarked on how wide open his eyes were. Joseph came quite regularly after that, and was so grateful for the gift Santa Claus brought him at Christmas that, even though he was cured in a few weeks, he continued to come just to say "Hello" to the Doctor and myself.

One day, shortly before Christmas, a little girl came for treatment. Her age I cannot exactly remember, but should imagine it was nine or ten years. Her wistful eyes looked up into mine, and I guessed that she was very poor and lonely. She told me that her mother and father were both dead and that a kind neighbor who already had nine children was mothering her too. I knew just what I would

like to have had Santa Claus give her, and tried to figure out just how much I could stretch my Christmas fund so that I could buy clothes and shoes for this little girl. It could not be done; but I doubt if these useful things would have made her as happy as the dolly and the necklace which I ultimately gave her, and which cost only a trifle. Like the children in the first story she was so overcome with joy that she could scarcely talk.

There was nothing seriously wrong with her eyes, but she was under a nervous strain which caused her sight to blur at times. I soon corrected this, and she was very happy when told that she didn't need glasses.

I must add that the adult patients are not forgotten at Christmas time. Each one gets a box of candy and an orange, and they all leave the clinic with a smile that won't come off; all of which, I am sure, is good for their eyes. My family seems to grow each year, but somehow I always find the money for the annual distribution of Christmas joy. A good many of the patients buy Snellen test cards to practice with at home, and all this money goes into the Christmas fund; then checks come from various sources—sometimes at the last moment. To all who have so generously helped me in this way I want to say:

"I thank you from the bottom of my heart, and wish you all a merry Christmas and a happy New Year."

QUESTION AND ANSWERS

Our readers are invited to send in questions regarding any difficulties they may experience in using the various methods of treatment which it recommends. These will be answered as promptly as possible, in the magazine, if space permits, otherwise by mail. Kindly enclose a stamped, addressed envelope.

READ

The Anatomy and Physiology of the Eye

By W. H. Bates, M.D.

This is the first of the series of articles beginning in the current number of Rational Living.

Address:

RATIONAL LIVING, 61 Hamilton Pl., New York

Price: 40 cents a copy; $4.00 a year.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

For Sale By

The Central Fixation Publishing Company

Paper ....50 Cents

Cardboard (folding) .....75 Cents

Delivered

Back numbers Better Eyesight.....$ .30

Bound vols., 1st and 2nd years, each..... 4.25

Photographic reductions of the Bible..... 4.00

Ophthalmoscopes (best quality) 4.00

Burning glasses 4.00

Reprints of articles by Dr. Bates in other medical journals, a limited number for sale. Send for list.

Announcements

Space does not permit us to print the entire list of Dr. Bates' authorized representatives in the United States, Canada and Europe, which we should like to do for the benefit of our subscribers. The following, however, is a list of those who have taken courses of instruction in the Bates Method within the past few months. Those subscribers who wish to know if there is an authorized representative in their city may obtain this information by writing direct to Dr. Bates at 210 Madison Avenue, New York City.

Miss Clara M. Brewster,
Studio 6, Aquila Court,
Omaha, Nebraska.

Miss Mary E. Wilson,
2538 Channing Way,
Berkeley, Calif.

Dr. Paul J. Dodge,
911 New Industrial Trust
Bldg., Providence, R. I.

Mrs. D. L. Corbett,
1712½ Fifth Ave.,
Los Angeles, Calif.

Miss Jane Button,
249 Harvey St.,
Germantown, Pa.

Mr. Fred Baechtold,
572 12th St.,
West New York, N. J.
Tel.—Palisade 6-7735

Mr. Harold E. Ensley,
112 West 104th St.,
New York City.

Dr. Med. E. Schluter,
Hamburg, Mundsburger-
damm 11, Germany.

Mrs. R. Norman Jolliffe,
171 West 71st St.,
New York City.

It has come to our attention that certain parties not connected with Dr. Bates in any way are desirous of publishing a periodical called "Better Eyesight". We wish to say that any such use of this title is not with the permission of Dr. Bates or the Central Fixation Publishing

Announcements

Space does not permit us to print the entire list of Dr. Bates' authorized representatives in the United States, Canada and Europe, which we should like to do for the benefit of our subscribers. The following, however, is a list of those who have taken courses of instruction in the Bates Method within the past few months. Those subscribers who wish to know if there is an authorized representative in their city may obtain this information by writing direct to Dr. Bates at 210 Madison Avenue, New York City.

Miss Clara M. Brewster, Studio 6, Aquila Court, Omaha, Nebraska.

Miss Mary E. Wilson, 2538 Channing Way, Berkeley, Calif.

Dr. Paul J. Dodge, 911 New Industrial Trust Bldg., Providence, R. I.

Mrs. D. L. Corbett, 1712½ Fifth Ave., Los Angeles, Calif.

Miss Jane Button, 249 Harvey St., Germantown, Pa.

Mr. Fred Baechtold, 572 12th St., West New York, N. J. Tel.—Palisade 6-7735

Mr. Harold E. Ensley, 112 West 104th St., New York City.

Dr. Med. E. Schluter, Hamburg, Mundsburger-damm 11, Germany.

Mrs. R. Norman Jolliffe, 171 West 71st St., New York City.

It has come to our attention that certain parties not connected with Dr. Bates in any way are desirous of publishing a periodical called "Better Eyesight". We wish to say that any such use of this title is not with the permission of Dr. Bates or the Central Fixation Publishing

Perfect Sight Without Glasses

By W. H. BATES, M.D.

The author of this book presents evidence that all errors of refraction are caused by strain —and cured by rest and relaxation.

The complete method of treatment is described so clearly that the reader can usually discard his glasses and improve his vision.

For sale at this office and at leading bookstores. Price $3.00 postpaid.

METHODS OF TREATMENT
described in
Stories from the Clinic
By EMILY C. LIERMAN

This book fully explains the author's experiences in treating clinic patients and her application of Dr. Bates' method of treatment to each individual case.

"Stories from the Clinic" is a contribution to the practice of Ophthalmology

Price, $2.00 postpaid

Central Fixation Publishing Company
18 *East 48th Street, New York City*

ceased publication

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. XIV **JUNE, 1930** **No. 12**

Stop Staring

Imagination Essential to Sight
By W. H. Bates, M.D.

Suggestions
By Emily A. Bates

Questions and Answers

Announcements

$2.00 per year **20 cents per copy** **Back numbers 30 cents**

Published by the CENTRAL FIXATION PUBLISHING COMPANY
210 MADISON AVENUE **NEW YORK, N. Y.**

The Late Dr. William H. Bates.

To the Editor of The New York Times:

The press notices upon the death of Dr. William H. Bates failed to give adequate consideration to the truly significant aspects of the career of a man whose unique achievements have not yet been properly understood or generally appreciated.

Meager attention has been given to his priority in the therapeutic application of adrenalin and to his immensely important researches concerning the influence of memory upon vision.

His verification, by every known scientific means, of the fact that the normal fixation of the eye is central, and never stationary, but, on the contrary, constantly unsteady, either swinging or shifting in every direction, and his successful application of this principle to the treatment of eye strain symptoms, should alone be sufficient to merit recognition among his fellow-men.

Here, after all, he but developed practically—that is, through clinical application in the field of ophthalmology—the psychological ideas of Leibnitz and Herbart and the physiological principles of Titchener and Wundt upon the existence of any moment in the consciousness, as in the retina, of a clear point in the centre and a field of increasing vagueness as it departs from that point: the so-called point of apperception.

Of course the technique which he evolved from these fundamental concepts is in direct opposition to the methods ordinarily used for the treatment of errors of refraction and their accompanying symptoms — methods based upon principles still almost universally accepted. It is not to be wondered at, therefore, that the theories and methods of Dr. Bates should have always aroused violent antagonism. But those of us who derived benefit from his new doctrines can testify to the scientific worth of their originator.

R. R. A.

New York, July 12, 1931.

Announcements

Space does not permit us to print the entire list of Dr. Bates' authorized representatives in the United States, Canada and Europe, which we should like to do for the benefit of our subscribers. The following, however, is a list of those who have taken courses of instruction in the Bates Method within the past few months. Those subscribers who wish to know if there is an authorized representative in their city may obtain this information by writing direct to Dr. Bates at 210 Madison Avenue, New York City.

Miss Clara M. Brewster,
Studio 6, Aquila Court,
Omaha, Nebraska.

Miss Mary E. Wilson,
2538 Channing Way,
Berkeley, Calif.

Dr. Paul J. Dodge,
911 New Industrial Trust
Bldg., Providence, R. I.

Mrs. D. L. Corbett,
1712½ Fifth Ave.,
Los Angeles, Calif.

Miss Jane Button,
249 Harvey St.,
Germantown, Pa.

Mr. Fred Baechtold,
572 12th St.,
West New York, N. J.
Tel.—Palisade 6-7735

Mr. Harold E. Ensley,
112 West 104th St.,
New York City.

Dr. Med. E. Schluter,
Hamburg, Mundsburger-
damm 11, Germany.

Mrs. R. Norman Jolliffe,
171 West 71st St.,
New York City.

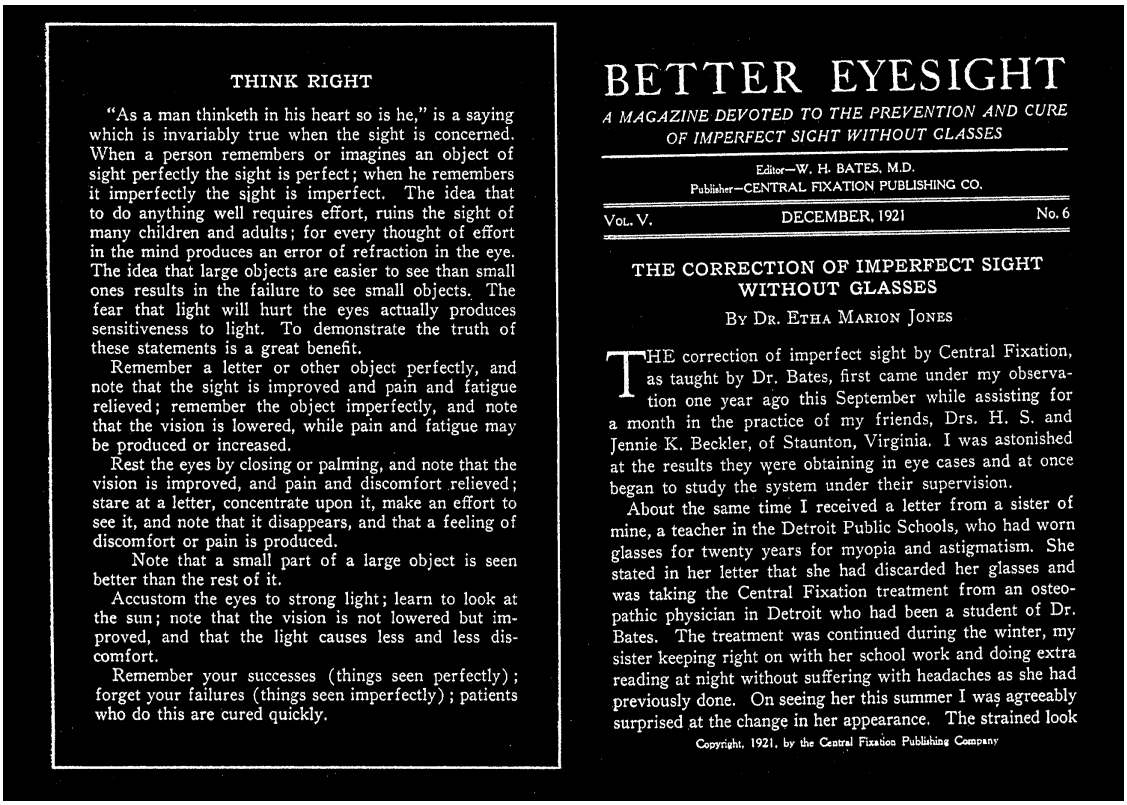
It has come to our attention that certain parties not connected with Dr. Bates in any way are desirous of publishing a periodical called "Better Eyesight". We wish to say that any such use of this title is not with the permission of Dr. Bates or the Central Fixation Publishing Company and that any magazine issued under this title other than the present one, is not published in the interest of the Bates Method. The title, "Better Eyesight", is protected against illegal usage.

As we have already notified our subscribers, "Better Eyesight" is being discontinued with this issue. This will enable Dr. Bates and Mrs. Bates to devote more time to the writing of new books on treatment alone for which there has been a very great demand. We request that all those who desire to be notified upon the publication of new books kindly send us their names and addresses which will be kept on file.

Bound volumes of "Better Eyesight" containing the issues from July, 1929 to June, 1930, inclusive, will be ready about July 15th. Those subscribers wishing to have their own magazines bound may send them to us before July 10th and they will be bound at the same time our issues are being bound. The price for binding will be $1.00.

Better Eyesight Magazine in Small, Fine Print
White Print on Black Paper

White print is as light to the eyes, easy, relaxing to read. Helpful for the blind, people with low vision as they practice improving the sight back to clear.



THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

VOL. V. DECEMBER, 1921 No. 6

THE CORRECTION OF IMPERFECT SIGHT WITHOUT GLASSES

BY DR. ETHA MARION JONES

THE correction of imperfect sight by Central Fixation, as taught by Dr. Bates, first came under my observation one year ago this September while assisting for a month in the practice of my friends, Drs. H. S. and Jennie K. Beckler, of Staunton, Virginia. I was astonished at the results they were obtaining in eye cases and at once began to study the system under their supervision.

About the same time I received a letter from a sister of mine, a teacher in the Detroit Public Schools, who had worn glasses for twenty years for myopia and astigmatism. She stated in her letter that she had discarded her glasses and was taking the Central Fixation treatment from an osteopathic physician in Detroit who had been a student of Dr. Bates. The treatment was continued during the winter, my sister keeping right on with her school work and doing extra reading at night without suffering with headaches as she had previously done. On seeing her this summer I was agreeably surprised at the change in her appearance. The strained look

Copyright, 1921, by the Central Fixation Publishing Company

about the eyes and face had given place to one of relaxation, the eyes were straight, and the nervous system had lost its tension and gained a poise formerly unknown. The retinoscope showed no errors of refraction in either eye.

Encouraged by this and other cases, I decided to prepare myself to specialize in this work. After studying the anatomy, pathology and physiology of the eye all last winter, and treating several patients as best I could with my limited knowledge of the system, I decided that what I now needed most was a course of personal instruction from Dr. Bates. I went to New York for this purpose a few months ago and spent a wonderful fortnight there. The course included work in Dr. Bates' clinic held three times a week in the Harlem Hospital. The hospital being in one of the colored sections of the city, many of the patients are negroes, and they are very appreciative, too; but both white and colored come in droves to be cured of all kinds of eye afflictions. Here I had a good opportunity to study eyes by means of the retinoscope and ophthalmoscope, and I observed the changes in the refraction and pathology as the treatment progressed. I can tell of only a few of the remarkable cases which I saw, for it would take days to tell about them all.

I was especially interested in a case of squint in a girl of fourteen, who had been attending the clinic about three months before I saw her. She had worn glasses since she was four years of age to correct the trouble, but had been growing gradually worse. When her sight was first tested she read 12/40 with her left or better eye. When asked to read the card with her squinting eye, she turned her head half way around to the left in trying to see it. Mrs. Lierman gave her one simple relaxing exercise to do and left her for a few minutes. At the next test she read 12/40 with the squinting eye without turning her head. Of course, that was temporary relief, as on straining again the squint would recur; but it showed what could be done by continuous treatment, and when I left New York the right eye was as straight as the left and did not change when the patient was excited or annoyed, or on reading or studying. She told me she could read or study for hours at a time without headaches or discomfort, while before coming to the clinic she could look at a book for only a few minutes at a time.

A negress, seventy-two years old, was responding wonderfully to treatment for cataract in the advanced stage. She had been in the clinic for two months. At first she could not distinguish the large C at the top of the test card. Before I left she could read 10/40 with both eyes.

A girl of twelve was suffering from retinitis pigmentosa, a condition generally pronounced incurable, in which spots of black pigment are deposited in the retina, parts of the retina destroyed and the nerve of sight diseased. On examination by the test card, the patient could read only the seventy line at five feet. Nystagmus was one of her worst symptoms, the eyes vibrating continually from side to side. She was extremely nervous, and very sensitive in regard to her condition, the slightest annoyance making her worse. At the first treatment, the nystagmus temporarily stopped, and she read the fifty line instead of the seventy at five feet. The last day I saw her at the clinic she could read the twenty line through at ten feet, and the nystagmus had entirely disappeared.

After seeing these things it would seem impossible for anyone to doubt that Dr. Bates' discoveries are bound, before long, to revolutionize the practice of ophthalmology. They offer hope to millions for whom formerly there was no hope, and I am glad to have a share in the wonderful work of making them available to the world of eye sufferers.

470 First Avenue, North, St. Petersburg, Fla.

White Print Acts as Light to the Eyes, Activates the Retina, Relaxes the Mind and Eyes, is Easy to See.

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Dr. W. H. Bates
Sept. 28 1924

BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glasses

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No. 1

FOREWORD.

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.[1] This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent. of the registrants were rejected, 13 per cent. more than for any other single cause.[2]

Later the standard was lowered[3] so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interferring with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection in the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

[1] Havard: Manual of Military Hygiene for the Military services of the United States, third revised edition 1917, p. 195.

[2] Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.

[3] Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 75, issued through office of the Provost Marshal General.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. V DECEMBER, 1921 No. 6

Think Right

The Correction of Imperfect Sight Without Glasses
By Dr. Etha Marion Jones

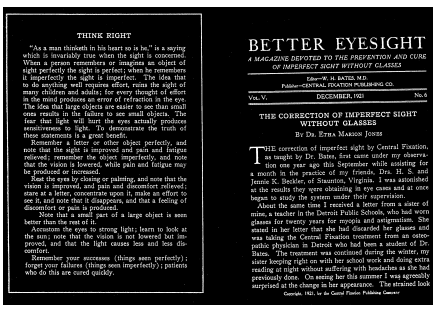
Mental Control in Relation to Vision
By W. H. Bates, M. D.

Christmas at the Clinic
By Emily C. Lierman

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
300 MADISON AVENUE NEW YORK, N. Y.

Doctors are needed all over the world to cure people without glasses



THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. V. DECEMBER, 1921 No. 6

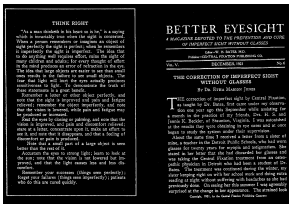
THE CORRECTION OF IMPERFECT SIGHT WITHOUT GLASSES

By Dr. Etha Marion Jones

THE correction of imperfect sight by Central Fixation, as taught by Dr. Bates, first came under my observation one year ago this September while assisting for a month in the practice of my friends, Drs. H. S. and Jennie K. Beckler, of Staunton, Virginia. I was astonished at the results they were obtaining in eye cases and at once began to study the system under their supervision.

About the same time I received a letter from a sister of mine, a teacher in the Detroit Public Schools, who had worn glasses for twenty years for myopia and astigmatism. She stated in her letter that she had discarded her glasses and was taking the Central Fixation treatment from an osteopathic physician in Detroit who had been a student of Dr. Bates. The treatment was continued during the winter, my sister keeping right on with her school work and doing extra reading at night without suffering with headaches as she had previously done. On seeing her this summer I was agreeably surprised at the change in her appearance. The strained look

Copyright, 1921, by the Central Fixation Publishing Company



MENTAL CONTROL IN RELATION TO VISION

By W. H. Bates, M.D.

THE eye with perfect sight is always at rest. When it begins to strain the sight becomes imperfect. The eye with imperfect sight is always straining, and when it ceases to do so the sight becomes normal. These conditions of rest and unrest are reflections of the mind. In other words, they indicate the presence or absence of mental control.

When the mind is not under control the memory or imagination is impaired. Therefore one cannot at the moment of seeing something imperfectly form a perfect mental picture. A person with perfect sight can remember a color, a yellow flower, a red piece of cloth, a letter of small print, a black period, a white cloud in the sky, just as well with the eyes open and looking at the Snellen test card, or reading a printed page, as with his eyes closed. A person with imperfect sight either cannot do this at all, or can do it only under certain favorable conditions, as with his eyes closed, or when looking at objects at certain distances. A near-sighted person may retain his mental control and consequent ability to form mental pictures when reading fine print at six inches, but may lose both at five inches, or when looking at certain letters on the distant Snellen test card. Some patients have a good imagination and normal sight in the daytime, but lose both by artificial light. Others have normal vision and a good imagination only when the light is dim. One patient had imperfect sight (20/70) corrected by concave 6.00 D. S. in ordinary daylight, but when the light was dim her vision became normal (20/20) without glasses, and her mental pictures were just as good when her eyes were open as when they were closed. She became able, by means of sun-gazing, to remember, with her eyes open, a black period in the bright

outdoor sunshine, when her vision, tested with the Snellen test card, became normal in ordinary daylight.

Many cases of imperfect sight have been cured simply by having the patient demonstrate these facts. One patient had vision of 20/200 without glasses. She was near-sighted and could read fine print at a near point without trouble. She was asked to look at a small letter *o*. The question was asked:

"Can you see the letter easily and continuously?"

"Yes," she answered.

She could also, with eyes closed, remember it without difficulty and imagine the white center much whiter than the white card on which it was printed. With some encouragement she became able to realize that she did not imagine the letter all alike; that she saw one part best, and that she did not imagine the same part best very long at a time; that her attention was constantly shifting; and that the small letter was moving slowly, easily, rhythmically, continuously, a very short distance from side to side, the movement being so inconspicuous that she would not have noted it if her attention had not been called to the fact. When she tried to keep her attention on one small part of the letter continuously for a few seconds, or part of a minute, she noted that this could not be done without effort, her mind tired, her eyes pained, although they were closed, and she lost the memory of the letter.

With her eyes open she then demonstrated that her sight was the same as her memory with her eyes closed. When she tried to keep her attention fixed on one part of the letter the movement from side to side stopped, she experienced a sense of effort, her head began to ache, the letter blurred, all parts of it looked alike, and soon it disappeared. She was reminded that when she saw the letter distinctly, or when she imagined it perfectly, she did it easily, without effort, without strain, without any trouble or hard work whatever; but that when she saw, or imagined it imperfectly, she made a great effort.

The letters on the distant Snellen test card appeared gray and blurred to her, and all parts of each letter looked alike. Even the large letter that she could distinguish was blurred, with a gray outline, and was not as black as the small letters of the fine print which she read so easily. Her attention was called to the great difference between the size of the letters on the Snellen test card and those of the fine print, and I suggested that if she saw the larger letters on the test card gray, while the smaller letters of the fine print looked black to her, it must be because she was imagining them to be gray. I also said that if she could imagine the white openings of the small letters to be whiter than they really were, she ought to be able to do the same thing with the larger white spaces of the larger letters. Thus she was led to realize that a large part of what she saw on both the large and the small card was imaginary, and that she ought to be able to use her imagination to improve her sight when looking at the large card, as she did when looking at the small one, instead of to spoil it, as she was then doing. Having demonstrated these facts she soon became able to retain her mental control when looking at distant objects, and was permanently cured.

One of the worst cases of pain and fatigue which I ever saw occurred in a young man who lived several thousand miles from New York, and came here as a last resort in the hope of being relieved of the misery he had endured as long as he could remember. The history of his treatment by numerous physicians, mostly ophthalmologists, would make an interesting story, but it is too long to be recounted here. On testing his sight I was surprised to find it good. He read the twenty line of the Snellen test card at twenty feet, and also read the finest print at various distances. At this time he had no pain. When the pain came on, however, his vision became imperfect, and as the pain was almost continuous, he said he suffered from imperfect sight most of the time. I

asked him why he did not maintain his good sight continuously when he obtained so much relief from it. He replied that he was unable to do so.

He had lost his mental control to such an extent that even with his eyes closed he was unable to visualize his own signature, and when he attempted to do so and failed, the pain in his eyes and head became much worse. I had him look at a large letter on the Snellen test card and observe its white center, which he was able to see whiter than the rest of the card. I told him that the white center of the letter was not whiter than the rest of the card and that he only imagined it so. Then I asked him if he could imagine the white center as white as snow with the sun shining on it—a dazzling white. He answered:

"Yes, I can imagine it as white as the snow on the top of the mountains near my home."

I told him that he had formed a mental picture of the snow-capped mountain, by the aid of his memory or imagination, and that having done this with his eyes open, he ought to be able to visualize the mountain with his eyes closed. Much to my gratification he was able to do this for part of a minute, and to imagine not only the white snow on top of the mountain but also other parts of it as well. Then he demonstrated that he could imagine one part best of the snow-cap, but that when he tried to imagine it all at once the mental picture disappeared and his pain increased. To see one part at a time of the snow-cap was easy and his pain was relieved. To see all parts at the same time was impossible, and trying to do the impossible was a strain which produced pain. In other words to lose his mental picture of the mountain required an effort, a very great effort which tore the nerves of his eyes and head all to pieces.

With this demonstration as a beginning, he became able to form mental pictures of other objects. The most difficult

thing of all was for him to imagine printed or written letters, but this was finally accomplished, and his mental control, and consequently his mental pictures, became normal. With his eyes closed he is now able to remember or imagine large or small letters as well as he can see them with his eyes open. His pain is entirely relieved and—what pleased him most—his vision has improved to 20/10, double the accepted standard of normality.

STORIES FROM THE CLINIC

22: Christmas at the Clinic

By Emily C. Lierman

THROUGHOUT the civilized world Christmas is recognized as the children's day. To hosts of boys and girls it seems the most wonderful day in the year; but there are other little folks—all too many of them—who do not know its meaning, whom Santa Claus seems to have quite forgotten.

This fact was brought home to me very forcibly during my first Christmas at the clinic, seven years ago. A boy of seven came with his sister, a little girl of five, for treatment. Both the children were thinly clad and far from clean, and seemed to feel perfectly at home near a warm radiator. There was nothing wrong with the girl's eyes, but the boy had a severe inflammation of the eyelids, along with a squint of the right eye. I was not surprised to find later that this inflammation was caused by uncleanliness. As I was about to treat him I asked him what he expected Santa Claus to give him. The time was two weeks before Christmas. He looked up and said:

"Oh, he aint never came to our house! I only sees him in the store windows."

"But you have a Christmas tree on Christmas eve, don't you?" I asked.

"Nope," said he, "we never had none."

I began to think I wanted to use my influence with Santa Claus on behalf of this neglected waif, but my present business was to treat him. No, I did not begin with palming this time. I washed his eyes and face with water, and judging by the color of the towel when the operation was over I should say that he had not been washed for six months or so. I now tested his sight, and with both eyes he read the ten line at fifteen feet. Then I covered his good eye, and with the squinting eye, the right, he read the seventy line (15/70). I now showed him how to palm, and while his eyes were covered I told him the story of the Babe of Bethlehem. This worked like a charm, and in less than ten minutes his right eye improved to 15/30. The little fellow promised to cover his eyes to rest them many times each day; and I promised that Santa Claus would surely have a present for him at Christmas.

The progress he made was astonishing. I learned later that his father was in jail for theft, and that he had to mother his little sister and baby brother while his sickly mother went out to work; yet he found time to practice, and before Christmas he had normal vision in both eyes, though the right eye turned in at times the least little bit. As for the inflammation, it had completely disappeared under the influence of the sun treatment.

The day before Christmas I bought a Christmas tree and filled a big basket with good things to eat and a little gift for each child in the family of my little patient, and in the evening I took them to his home. The poverty I found there wrung my heart, but I had the gratification of knowing that the children at least would have a happy Christmas. The

sight of the Christmas tree filled them with rapture too great for speech, and the gratitude of the mother was pathetic.

Shortly afterward the boy's visits to the clinic ceased, and going to his home I found the scanty belongings of the family upon the sidewalk, all covered with freshly fallen snow. Next day I went again, and was told by the neighbors that the mother was in a hospital and that the children had been placed by a charitable society in an institution.

I never saw nor heard of my patient again, but he inspired me with the idea of trying to make my family at the clinic happy at Christmas time, and incidentally I found that Santa Claus was an invaluable assistant, taking the place of baseball at other seasons. Mothers often tell me that Jimmie or Johnnie will not behave long enough for me to treat him. Well, I listen, of course, and then I begin to talk baseball or Santa Claus, according to the season of the year, and I have known the most restless of small boys to sit on a stool, or stand in a corner, for ten minutes without moving while I told of the night before Christmas, or related some incident of the baseball field. It is astonishing the interest a small boy takes in baseball. Nine times out of ten when I ask a boy to imagine something perfectly he will say:

"I can imagine a baseball very well."

I think if Babe Ruth knew how these infants admire him, he would provide seats for about a thousand of them at some of his games just for the sake of having a group of pre-eminently enthusiastic rooters on the bleachers. I think, too, that he wouldn't mind playing Santa Claus and providing baseballs for some of my patients. I am sure nothing would make them happier, even though baseballs are of very little use in a city that does not provide enough playgrounds for its children, and where the police will not let you play baseball in the streets.

However, this is a digression. Santa Claus, as I said, is a fair rival of baseball, and appeals to girls and boys alike. I begin in September to talk about the visit he makes to the clinic every year, and the result is magical.

Joseph, nine years old, was quite unmanageable at first, and could not be enticed to palm, nor even to stand still long enough for me to test him. I finally got tired of coaxing him, and told him to wait until others had been treated. His mother, a very nervous woman, wanted to thrash him, but the little fellow didn't seem to mind that a bit. He had been sent by the school nurse for glasses, and was so sensitive to light that he could only partly open his eyes. When I was able to get back to him I said:

"If you will read this card for me and do as I tell you, I will have you come here the day before Christmas when Santa Claus will give you something nice."

It worked splendidly. He read the card with both eyes together and each eye separately, getting most of the letters on the forty line at twelve feet. He palmed when I showed him how, and before he left his sight had improved to 12/20. After he had palmed for ten minutes or so his mother remarked on how wide open his eyes were. Joseph came quite regularly after that, and was so grateful for the gift Santa Claus brought him at Christmas that, even though he was cured in a few weeks, he continued to come just to say "Hello" to the Doctor and myself.

One day, shortly before Christmas, a little girl came for treatment. Her age I cannot exactly remember, but should imagine it was nine or ten years. Her wistful eyes looked up into mine, and I guessed that she was very poor and lonely. She told me that her mother and father were both dead and that a kind neighbor who already had nine children was mothering her too. I knew just what I would

like to have had Santa Claus give her, and tried to figure out just how much I could stretch my Christmas fund so that I could buy clothes and shoes for this little girl. It could not be done; but I doubt if these useful things would have made her as happy as the dolly and the necklace which I ultimately gave her, and which cost only a trifle. Like the children in the first story she was so overcome with joy that she could scarcely talk.

There was nothing seriously wrong with her eyes, but she was under a nervous strain which caused her sight to blur at times. I soon corrected this, and she was very happy when told that she didn't need glasses.

I must add that the adult patients are not forgotten at Christmas time. Each one gets a box of candy and an orange, and they all leave the clinic with a smile that won't come off; all of which, I am sure, is good for their eyes. My family seems to grow each year, but somehow I always find the money for the annual distribution of Christmas joy. A good many of the patients buy Snellen test cards to practice with at home, and all this money goes into the Christmas fund; then checks come from various sources—sometimes at the last moment. To all who have so generously helped me in this way I want to say:

"I thank you from the bottom of my heart, and wish you all a merry Christmas and a happy New Year."

QUESTION AND ANSWERS

Our readers are invited to send in questions regarding any difficulties they may experience in using the various methods of treatment which it recommends. These will be answered as promptly as possible, in the magazine, if space permits, otherwise by mail. Kindly enclose a stamped, addressed envelope.

READ

The Anatomy and Physiology of the Eye

By W. H. BATES, M.D.

This is the first of the series of articles beginning in the current number of Rational Living.

Address:

RATIONAL LIVING, 61 Hamilton Pl., New York

Price: 40 cents a copy; $4.00 a year.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten. fifteen, or twenty feet.

For Sale By

The Central Fixation Publishing Company

Paper ....50 Cents

Cardboard (folding) .....75 Cents

DELIVERED

Back numbers BETTER EYESIGHT.....$ .30
Bound vols., 1st and 2nd years, each..... 4.25
Photographic reductions of the Bible..... 4.00
Ophthalmoscopes (best quality) 4.00
Burning glasses 4.00

Reprints of articles by Dr. Bates in other medical journals, a limited number for sale. Send for list.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. V DECEMBER, 1921 No. 6

Think Right

The Correction of Imperfect Sight Without Glasses
By Dr. Etha Marion Jones

Mental Control in Relation to Vision
By W. H. Bates, M. D.

Christmas at the Clinic
By Emily C. Lierman

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
300 MADISON AVENUE NEW YORK, N. Y.

Doctors are needed all over the world to cure people without glasses

THINK RIGHT

"As a man thinketh in his heart so is he," is a saying which is invariably true when the sight is concerned. When a person remembers or imagines an object of sight perfectly the sight is perfect; when he remembers it imperfectly the sight is imperfect. The idea that to do anything well requires effort, ruins the sight of many children and adults; for every thought of effort in the mind produces an error of refraction in the eye. The idea that large objects are easier to see than small ones results in the failure to see small objects. The fear that light will hurt the eyes actually produces sensitiveness to light. To demonstrate the truth of these statements is a great benefit.

Remember a letter or other object perfectly, and note that the sight is improved and pain and fatigue relieved; remember the object imperfectly, and note that the vision is lowered, while pain and fatigue may be produced or increased.

Rest the eyes by closing or palming, and note that the vision is improved, and pain and discomfort relieved; stare at a letter, concentrate upon it, make an effort to see it, and note that it disappears, and that a feeling of discomfort or pain is produced.

Note that a small part of a large object is seen better than the rest of it.

Accustom the eyes to strong light; learn to look at the sun; note that the vision is not lowered but improved, and that the light causes less and less discomfort.

Remember your successes (things seen perfectly); forget your failures (things seen imperfectly); patients who do this are cured quickly.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. V. DECEMBER, 1921 No. 6

THE CORRECTION OF IMPERFECT SIGHT WITHOUT GLASSES

By Dr. Etha Marion Jones

THE correction of imperfect sight by Central Fixation, as taught by Dr. Bates, first came under my observation one year ago this September while assisting for a month in the practice of my friends, Drs. H. S. and Jennie K. Beckler, of Staunton, Virginia. I was astonished at the results they were obtaining in eye cases and at once began to study the system under their supervision.

About the same time I received a letter from a sister of mine, a teacher in the Detroit Public Schools, who had worn glasses for twenty years for myopia and astigmatism. She stated in her letter that she had discarded her glasses and was taking the Central Fixation treatment from an osteopathic physician in Detroit who had been a student of Dr. Bates. The treatment was continued during the winter, my sister keeping right on with her school work and doing extra reading at night without suffering with headaches as she had previously done. On seeing her this summer I was agreeably surprised at the change in her appearance. The strained look

Copyright, 1921, by the Central Fixation Publishing Company

about the eyes and face had given place to one of relaxation, the eyes were straight, and the nervous system had lost its tension and gained a poise formerly unknown. The retinoscope showed no errors of refraction in either eye.

Encouraged by this and other cases, I decided to prepare myself to specialize in this work. After studying the anatomy, pathology and physiology of the eye all last winter, and treating several patients as best I could with my limited knowledge of the system, I decided that what I now needed most was a course of personal instruction from Dr. Bates. I went to New York for this purpose a few months ago and spent a wonderful fortnight there. The course included work in Dr. Bates' clinic held three times a week in the Harlem Hospital. The hospital being in one of the colored sections of the city, many of the patients are negroes, and they are very appreciative, too; but both white and colored come in droves to be cured of all kinds of eye afflictions. Here I had a good opportunity to study eyes by means of the retinoscope and ophthalmoscope, and I observed the changes in the refraction and pathology as the treatment progressed. I can tell of only a few of the remarkable cases which I saw, for it would take days to tell about them all.

I was especially interested in a case of squint in a girl of fourteen, who had been attending the clinic about three months before I saw her. She had worn glasses since she was four years of age to correct the trouble, but had been growing gradually worse. When her sight was first tested she read 12/40 with her left or better eye. When asked to read the card with her squinting eye, she turned her head half way around to the left in trying to see it. Mrs. Lierman gave her one simple relaxing exercise to do and left her for a few minutes. At the next test she read 12/40 with the squinting eye without turning her head. Of course, that was temporary relief, as on straining again the squint would

recur; but it showed what could be done by continuous treatment, and when I left New York the right eye was as straight as the left and did not change when the patient was excited or annoyed, or on reading or studying. She told me she could read or study for hours at a time without headaches or discomfort, while before coming to the clinic she could look at a book for only a few minutes at a time.

A negress, seventy-two years old, was responding wonderfully to treatment for cataract in the advanced stage. She had been in the clinic for two months. At first she could not distinguish the large C at the top of the test card. Before I left she could read 10/40 with both eyes.

A girl of twelve was suffering from retinitis pigmentosa, a condition generally pronounced incurable, in which spots of black pigment are deposited in the retina, parts of the retina destroyed and the nerve of sight diseased. On examination by the test card, the patient could read only the seventy line at five feet. Nystagmus was one of her worst symptoms, the eyes vibrating continually from side to side. She was extremely nervous, and very sensitive in regard to her condition, the slightest annoyance making her worse. At the first treatment, the nystagmus temporarily stopped, and she read the fifty line instead of the seventy at five feet. The last day I saw her at the clinic she could read the twenty line through at ten feet, and the nystagmus had entirely disappeared.

After seeing these things it would seem impossible for anyone to doubt that Dr. Bates' discoveries are bound, before long, to revolutionize the practice of ophthalmology. They offer hope to millions for whom formerly there was no hope, and I am glad to have a share in the wonderful work of making them available to the world of eye sufferers.

470 First Avenue, North, St. Petersburg, Fla.

MENTAL CONTROL IN RELATION TO VISION

By W. H. Bates, M.D.

THE eye with perfect sight is always at rest. When it begins to strain the sight becomes imperfect. The eye with imperfect sight is always straining, and when it ceases to do so the sight becomes normal. These conditions of rest and unrest are reflections of the mind. In other words, they indicate the presence or absence of mental control.

When the mind is not under control the memory or imagination is impaired. Therefore one cannot at the moment of seeing something imperfectly form a perfect mental picture. A person with perfect sight can remember a color, a yellow flower, a red piece of cloth, a letter of small print, a black period, a white cloud in the sky, just as well with the eyes open and looking at the Snellen test card, or reading a printed page, as with his eyes closed. A person with imperfect sight either cannot do this at all, or can do it only under certain favorable conditions, as with his eyes closed, or when looking at objects at certain distances. A near-sighted person may retain his mental control and consequent ability to form mental pictures when reading fine print at six inches, but may lose both at five inches, or when looking at certain letters on the distant Snellen test card. Some patients have a good imagination and normal sight in the daytime, but lose both by artificial light. Others have normal vision and a good imagination only when the light is dim. One patient had imperfect sight (20/70) corrected by concave 6.00 D. S. in ordinary daylight, but when the light was dim her vision became normal (20/20) without glasses, and her mental pictures were just as good when her eyes were open as when they were closed. She became able, by means of sun-gazing, to remember, with her eyes open, a black period in the bright

outdoor sunshine, when her vision, tested with the Snellen test card, became normal in ordinary daylight.

Many cases of imperfect sight have been cured simply by having the patient demonstrate these facts. One patient had vision of 20/200 without glasses. She was near-sighted and could read fine print at a near point without trouble. She was asked to look at a small letter *o*. The question was asked:

"Can you see the letter easily and continuously?"

"Yes," she answered.

She could also, with eyes closed, remember it without difficulty and imagine the white center much whiter than the white card on which it was printed. With some encouragement she became able to realize that she did not imagine the letter all alike; that she saw one part best, and that she did not imagine the same part best very long at a time; that her attention was constantly shifting; and that the small letter was moving slowly, easily, rhythmically, continuously, a very short distance from side to side, the movement being so inconspicuous that she would not have noted it if her attention had not been called to the fact. When she tried to keep her attention on one small part of the letter continuously for a few seconds, or part of a minute, she noted that this could not be done without effort, her mind tired, her eyes pained, although they were closed, and she lost the memory of the letter.

With her eyes open she then demonstrated that her sight was the same as her memory with her eyes closed. When she tried to keep her attention fixed on one part of the letter the movement from side to side stopped, she experienced a sense of effort, her head began to ache, the letter blurred, all parts of it looked alike, and soon it disappeared. She was reminded that when she saw the letter distinctly, or when she imagined it perfectly, she did it easily, without effort, without strain, without any trouble or hard work whatever; but that when she saw, or imagined it imperfectly, she made a great effort.

The letters on the distant Snellen test card appeared gray and blurred to her, and all parts of each letter looked alike. Even the large letter that she could distinguish was blurred, with a gray outline, and was not as black as the small letters of the fine print which she read so easily. Her attention was called to the great difference between the size of the letters on the Snellen test card and those of the fine print, and I suggested that if she saw the larger letters on the test card gray, while the smaller letters of the fine print looked black to her, it must be because she was imagining them to be gray. I also said that if she could imagine the white openings of the small letters to be whiter than they really were, she ought to be able to do the same thing with the larger white spaces of the larger letters. Thus she was led to realize that a large part of what she saw on both the large and the small card was imaginary, and that she ought to be able to use her imagination to improve her sight when looking at the large card, as she did when looking at the small one, instead of to spoil it, as she was then doing. Having demonstrated these facts she soon became able to retain her mental control when looking at distant objects, and was permanently cured.

One of the worst cases of pain and fatigue which I ever saw occurred in a young man who lived several thousand miles from New York, and came here as a last resort in the hope of being relieved of the misery he had endured as long as he could remember. The history of his treatment by numerous physicians, mostly ophthalmologists, would make an interesting story, but it is too long to be recounted here. On testing his sight I was surprised to find it good. He read the twenty line of the Snellen test card at twenty feet, and also read the finest print at various distances. At this time he had no pain. When the pain came on, however, his vision became imperfect, and as the pain was almost continuous, he said he suffered from imperfect sight most of the time. I

asked him why he did not maintain his good sight continuously when he obtained so much relief from it. He replied that he was unable to do so.

He had lost his mental control to such an extent that even with his eyes closed he was unable to visualize his own signature, and when he attempted to do so and failed, the pain in his eyes and head became much worse. I had him look at a large letter on the Snellen test card and observe its white center, which he was able to see whiter than the rest of the card. I told him that the white center of the letter was not whiter than the rest of the card and that he only imagined it so. Then I asked him if he could imagine the white center as white as snow with the sun shining on it—a dazzling white. He answered:

"Yes, I can imagine it as white as the snow on the top of the mountains near my home."

I told him that he had formed a mental picture of the snow-capped mountain, by the aid of his memory or imagination, and that having done this with his eyes open, he ought to be able to visualize the mountain with his eyes closed. Much to my gratification he was able to do this for part of a minute, and to imagine not only the white snow on top of the mountain but also other parts of it as well. Then he demonstrated that he could imagine one part best of the snow-cap, but that when he tried to imagine it all at once the mental picture disappeared and his pain increased. To see one part at a time of the snow-cap was easy and his pain was relieved. To see all parts at the same time was impossible, and trying to do the impossible was a strain which produced pain. In other words to lose his mental picture of the mountain required an effort, a very great effort which tore the nerves of his eyes and head all to pieces.

With this demonstration as a beginning, he became able to form mental pictures of other objects. The most difficult

thing of all was for him to imagine printed or written letters, but this was finally accomplished, and his mental control, and consequently his mental pictures, became normal. With his eyes closed he is now able to remember or imagine large or small letters as well as he can see them with his eyes open. His pain is entirely relieved and—what pleased him most—his vision has improved to 20/10, double the accepted standard of normality.

STORIES FROM THE CLINIC

22: Christmas at the Clinic

By Emily C. Lierman

THROUGHOUT the civilized world Christmas is recognized as the children's day. To hosts of boys and girls it seems the most wonderful day in the year; but there are other little folks—all too many of them—who do not know its meaning, whom Santa Claus seems to have quite forgotten.

This fact was brought home to me very forcibly during my first Christmas at the clinic, seven years ago. A boy of seven came with his sister, a little girl of five, for treatment. Both the children were thinly clad and far from clean, and seemed to feel perfectly at home near a warm radiator. There was nothing wrong with the girl's eyes, but the boy had a severe inflammation of the eyelids, along with a squint of the right eye. I was not surprised to find later that this inflammation was caused by uncleanliness. As I was about to treat him I asked him what he expected Santa Claus to give him. The time was two weeks before Christmas. He looked up and said:

"Oh, he aint never came to our house! I only sees him in the store windows."

"But you have a Christmas tree on Christmas eve, don't you?" I asked.

"Nope," said he, "we never had none."

I began to think I wanted to use my influence with Santa Claus on behalf of this neglected waif, but my present business was to treat him. No, I did not begin with palming this time. I washed his eyes and face with water, and judging by the color of the towel when the operation was over I should say that he had not been washed for six months or so. I now tested his sight, and with both eyes he read the ten line at fifteen feet. Then I covered his good eye, and with the squinting eye, the right, he read the seventy line (15/70). I now showed him how to palm, and while his eyes were covered I told him the story of the Babe of Bethlehem. This worked like a charm, and in less than ten minutes his right eye improved to 15/30. The little fellow promised to cover his eyes to rest them many times each day; and I promised that Santa Claus would surely have a present for him at Christmas.

The progress he made was astonishing. I learned later that his father was in jail for theft, and that he had to mother his little sister and baby brother while his sickly mother went out to work; yet he found time to practice, and before Christmas he had normal vision in both eyes, though the right eye turned in at times the least little bit. As for the inflammation, it had completely disappeared under the influence of the sun treatment.

The day before Christmas I bought a Christmas tree and filled a big basket with good things to eat and a little gift for each child in the family of my little patient, and in the evening I took them to his home. The poverty I found there wrung my heart, but I had the gratification of knowing that the children at least would have a happy Christmas. The

sight of the Christmas tree filled them with rapture too great for speech, and the gratitude of the mother was pathetic.

Shortly afterward the boy's visits to the clinic ceased, and going to his home I found the scanty belongings of the family upon the sidewalk, all covered with freshly fallen snow. Next day I went again, and was told by the neighbors that the mother was in a hospital and that the children had been placed by a charitable society in an institution.

I never saw nor heard of my patient again, but he inspired me with the idea of trying to make my family at the clinic happy at Christmas time, and incidentally I found that Santa Claus was an invaluable assistant, taking the place of baseball at other seasons. Mothers often tell me that Jimmie or Johnnie will not behave long enough for me to treat him. Well, I listen, of course, and then I begin to talk baseball or Santa Claus, according to the season of the year, and I have known the most restless of small boys to sit on a stool, or stand in a corner, for ten minutes without moving while I told of the night before Christmas, or related some incident of the baseball field. It is astonishing the interest a small boy takes in baseball. Nine times out of ten when I ask a boy to imagine something perfectly he will say:

"I can imagine a baseball very well."

I think if Babe Ruth knew how these infants admire him, he would provide seats for about a thousand of them at some of his games just for the sake of having a group of pre-eminently enthusiastic rooters on the bleachers. I think, too, that he wouldn't mind playing Santa Claus and providing baseballs for some of my patients. I am sure nothing would make them happier, even though baseballs are of very little use in a city that does not provide enough playgrounds for its children, and where the police will not let you play baseball in the streets.

However, this is a digression. Santa Claus, as I said, is a fair rival of baseball, and appeals to girls and boys alike. I begin in September to talk about the visit he makes to the clinic every year, and the result is magical.

Joseph, nine years old, was quite unmanageable at first, and could not be enticed to palm, nor even to stand still long enough for me to test him. I finally got tired of coaxing him, and told him to wait until others had been treated. His mother, a very nervous woman, wanted to thrash him, but the little fellow didn't seem to mind that a bit. He had been sent by the school nurse for glasses, and was so sensitive to light that he could only partly open his eyes. When I was able to get back to him I said:

"If you will read this card for me and do as I tell you, I will have you come here the day before Christmas when Santa Claus will give you something nice."

It worked splendidly. He read the card with both eyes together and each eye separately, getting most of the letters on the forty line at twelve feet. He palmed when I showed him how, and before he left his sight had improved to 12/20. After he had palmed for ten minutes or so his mother remarked on how wide open his eyes were. Joseph came quite regularly after that, and was so grateful for the gift Santa Claus brought him at Christmas that, even though he was cured in a few weeks, he continued to come just to say "Hello" to the Doctor and myself.

One day, shortly before Christmas, a little girl came for treatment. Her age I cannot exactly remember, but should imagine it was nine or ten years. Her wistful eyes looked up into mine, and I guessed that she was very poor and lonely. She told me that her mother and father were both dead and that a kind neighbor who already had nine children was mothering her too. I knew just what I would

like to have had Santa Claus give her, and tried to figure out just how much I could stretch my Christmas fund so that I could buy clothes and shoes for this little girl. It could not be done; but I doubt if these useful things would have made her as happy as the dolly and the necklace which I ultimately gave her, and which cost only a trifle. Like the children in the first story she was so overcome with joy that she could scarcely talk.

There was nothing seriously wrong with her eyes, but she was under a nervous strain which caused her sight to blur at times. I soon corrected this, and she was very happy when told that she didn't need glasses.

I must add that the adult patients are not forgotten at Christmas time. Each one gets a box of candy and an orange, and they all leave the clinic with a smile that won't come off; all of which, I am sure, is good for their eyes. My family seems to grow each year, but somehow I always find the money for the annual distribution of Christmas joy. A good many of the patients buy Snellen test cards to practice with at home, and all this money goes into the Christmas fund; then checks come from various sources—sometimes at the last moment. To all who have so generously helped me in this way I want to say:

"I thank you from the bottom of my heart, and wish you all a merry Christmas and a happy New Year."

QUESTION AND ANSWERS

Our readers are invited to send in questions regarding any difficulties they may experience in using the various methods of treatment which it recommends. These will be answered as promptly as possible, in the magazine, if space permits, otherwise by mail. Kindly enclose a stamped, addressed envelope.

READ

The Anatomy and Physiology of the Eye

By W. H. Bates, M.D.

This is the first of the series of articles beginning in the current number of Rational Living.

Address:

RATIONAL LIVING, 61 Hamilton Pl., New York

Price: 40 cents a copy; $4.00 a year.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

For Sale By

The Central Fixation Publishing Company

Paper ....50 Cents

Cardboard (folding) .....75 Cents

Delivered

Back numbers Better Eyesight.....$ .30

Bound vols., 1st and 2nd years, each..... 4.25

Photographic reductions of the Bible..... 4.00

Ophthalmoscopes (best quality) 4.00

Burning glasses 4.00

Reprints of articles by Dr. Bates in other medical journals, a limited number for sale. Send for list.

Contact the Author for the entire 132 Issues, 11 years of Dr. Bates Original Antique Better Eyesight Magazine in PDF. Print any size. Read in the sunlight.

Better Eyesight Magazine

Illustrated With 500 Pictures

By

Ophthalmologist William H. Bates

July, 1919 to June, 1930 - 132 Issues

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY

39-45 EAST 42nd STREET NEW YORK, N. Y.

Better Eyesight Magazine

Illustrated with 500 Pictures

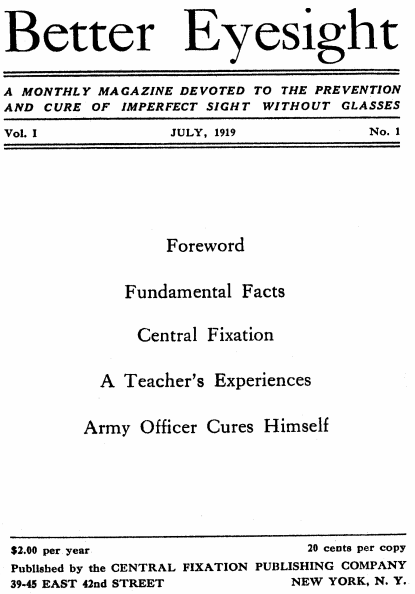
July, 1919 to June, 1930 - 132 Monthly Issues

By Ophthalmologist William Horatio Bates M.D., Eye, Ear, Nose & Throat

Copyright © July, 1919 - Author, Editor - William H. Bates
Central Fixation Publishing Company
39-45 EAST 42nd Street, NEW YORK, N.Y.

Stories From The Clinic By Emily C. A. Lierman, Bates Included.

Dr. William H. Bates
Ophthalmologist - M.D.
Eye, Ear, Nose & Throat.
Discovered the Principles of Eye Function-Natural Eyesight Improvement.



Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

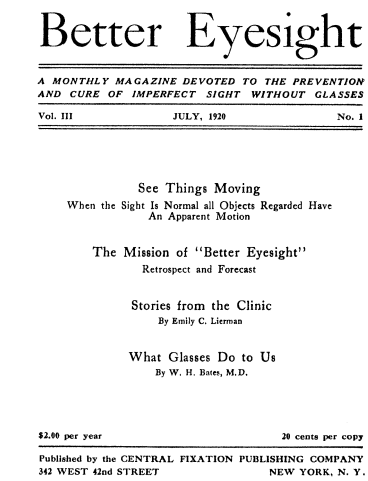
Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year 20 cents per copy
Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.



Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. III JULY, 1920 No. 1

See Things Moving
When the Sight Is Normal all Objects Regarded Have An Apparent Motion

The Mission of "Better Eyesight"
Retrospect and Forecast

Stories from the Clinic
By Emily C. Lierman

What Glasses Do to Us
By W. H. Bates, M.D.

$2.00 per year 20 cents per copy
Published by the CENTRAL FIXATION PUBLISHING COMPANY
342 WEST 42nd STREET NEW YORK, N. Y.

Natural Eyesight Improvement

Original and Modern Bates Method

This book contains Doctor Bates Better Eyesight Magazine. Every Year, Month, Page from July, 1919 to June, 1930 - Unedited. The Origin of Natural Eyesight Improvement. Safe, Natural Treatments for Clear Close, and Distant Vision, Astigmatism, Cataract, Glaucoma and other Eye Conditions.

Illustrated with 500 Pictures. All of his Original Treatments and Modern Versions of Older Treatments & New Treatments.

Pictures with directions are placed in the book to help the reader quickly understand each activity Dr. Bates describes. Learn, apply & obtain Natural Eyesight Improvement, clear vision easy and fast.

Remembering, imagining, creating clear mental/visual pictures is a main Natural Eyesight Improvement Treatment. The Brain, Memory, Imagination, Visual System work with the eyes to produce clear Eyesight (Vision).

Books that contain entertaining, interesting pictures improve the brain, visual systems memory, imagination of clear pictures, clear mental, visual images of objects the eyes look at. This improves eye function with the brain, relaxation and clarity of Eyesight.

12 Natural Eyesight Improvement E-books, Eyecharts, Videos, Audio Training and the Original Antique Print Pages of Better Eyesight Magazine included.

Copyright © - Pictures, blue text in this book are drawn, written, by Clark Night. Books Assembled, Distributed by Clearsight Publishing Co. - Do It Yourself–Natural Eyesight Improvement.

Clearsight Publishing Co., www.cleareyesight.info preserves Ophthalmologist Bates work free and low cost to the public. mclearsight@aol.com

Better Eyesight Magazine by William H. Bates, M. D.

Ophthalmologist - Eye, Ear, Nose & Throat

Central-Fixation Publishing Co.

New York City, New York, USA

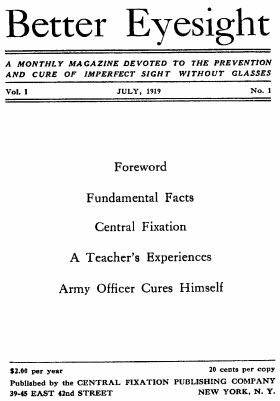
Ophthalmologist William H. Bates

Emily C. Lierman, Bates

Do It Yourself - Natural Eyesight Improvement - Original and Modern Bates Method & Better Eyesight Magazine Illustrated with 500 Pictures by Ophthalmologist William H. Bates. Based on the Method, Treatments of Dr. Bates, the Eye Doctor that discovered The Bates Method of Natural Eyesight, (Vision) Improvement.

This Book contains Better Eyesight Magazine; a PDF text version of the magazines Illustrated with 500 pictures & additional Modern Natural Eyesight Improvement Training, Activities and a copy of the Original Magazine Pages. Better Eyesight Magazine contains all 132 Monthly Magazine Issues, 11 years-July, 1919 to June, 1930.

Stories From The Clinic included; 123 True Stories of Dr. Bates and Emily C.A. Lierman Bates patients varied treatments, eyesight improvement. Written and published by Ophthalmologist William Horatio Bates and his assistant, wife Emily C. A. Lierman, Bates. Eyecharts, Videos, Audio Lessons & 20 E-Books included by Dr. Bates and other Bates Teachers, Doctors. Learn the Modern Treatments and the Original Method, Treatments, Activities from Dr. Bates.



Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. 1 JULY, 1919 No. 1

Foreword

Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$1.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY

39-45 EAST 42nd STREET NEW YORK, N. Y.

Introduction

Dr. Bates discovered the natural principles, true function of the eyes and applied relaxation, natural methods to return the eyes, eye muscles, nerves, mind/brain, thought patterns, body (entire visual system) to normal function with healthy eyes and clear vision. 'The Bates Method of Natural Eyesight Improvement.'

Dr. Bates Better Eyesight Magazine stories, articles describe how Dr. Bates & Emily Lierman Bates, other Doctors, School Teachers, Bates Method Students/Teachers, Children and Parents used Natural Treatments to remove, correct, prevent many different eye problems without use of eyeglasses, surgery, drugs.

The natural treatments they applied removed/prevented; unclear close and distant vision, astigmatism, cataracts, glaucoma, conical cornea, cornea scars, wandering/crossed eyes (strabismus) and other conditions. Hundreds of Natural Treatments are listed.

Read more in Dr. Bates Dedication.

The 8 Correct, Relaxed, Vision Habits (natural, normal, relaxed eye, visual system function); Shifting, Central-fixation, Relaxation, Movement, Blinking, Abdominal Breathing, Switching Close and Far, Long Swing, Sway (Rock), Familiar Eyecharts, Memory and Imagination, Sunning, Palming, Reading Fine Print and other activities described on the Author's website www.cleareyesight.info and in this book are derived from Dr. Bates treatments, method and are listed in his Better Eyesight Magazine and books. The Natural Eyesight Improvement Student practices, imitates this normal eye function to gently coax, return the eyes (visual system) to normal, natural function and clear vision.

Dr. Bates Better Eyesight Magazines, books, Medical Articles are included in this E-Book to enable the Natural Eyesight Improvement student to learn directly from Ophthalmologist Bates, the original eye doctor that discovered Natural Eyesight Improvement, to provide the reader with access to Dr. Bates treatments,

teaching method, true Natural Eyesight Improvement. The reader can avoid fraudulent teachers, harmful methods.

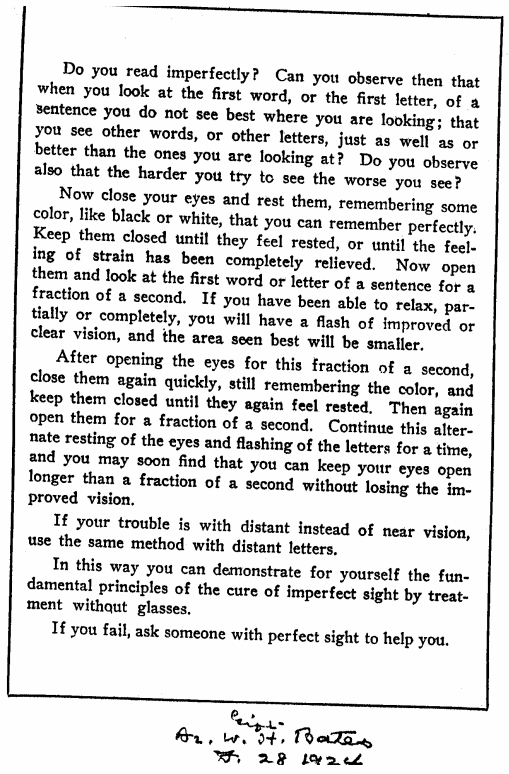
The Author, Clark Night is a Natural Eyesight Improvement Graduated Student and Self Trained Teacher that has maintained clear eyesight, freedom from eyeglasses for 37 years. Completed 5 different Natural Eyesight (Vision) Improvement Courses, Trained by Teachers in Person and Home School, studied many Bates and other Natural Vision Improvement books) Improved her close and distant vision to 20/20 and clearer at age 17. Age 59, can read fine print clear at 3 ft.+ and to 30 to 1 to 1/4 inches from the eyes. Teaches friends, family, public how to obtain clear vision without eyeglasses. http://www.cleareyesight.info

This Book Teaches a Variety of Natural Vision Improvement Treatments, Activities

Shifting; (Natural Eye movements), Central-fixation, Relaxation of the Mind/brain, body, eye muscles, eyes, Blinking, Memory and Imagination, Switching Close, Middle, Far for Perfect, Equally Clear Vision, Convergence, Accommodation, Divergence, Un-Accommodation in the Left and Right Eyes at all Distances, Left and Right Brain Hemisphere Activation and Integration, Color Treatment, Visualization, Alpha, Theta, Delta Brain Wave Frequency Deep Relaxation, Palming, Long Swing, Short Swing/Rock and Figure Eight Infinity Swings, Astigmatism Removal Swings, Positive Thinking, Constructive Thoughts, Emotions, Correct Posture, Neck, Shoulder Relaxation, Coordinated Body Movement Exercises, Physical Therapy, Abdominal Deep Breathing, Energy Circulation/Strengthening, Sunning, Saccadic Sunning, Reading, Seeing Fine Print and Eyecharts Clear, EFT, Acupressure, Headache Treatments, Nutrition Chapter-Eye, body Nutrition and other Activities for Clear Close, Distant, Day and Night Vision and Healthy Eyes. Treatments to reverse, remove, prevent: Myopia, Presbyopia (Unclear Distant & Close Vision), Astigmatism, Strabismus, Cataracts, Glaucoma and other eye/vision conditions.

Eyeglass Strength Reduction & Freedom From Glasses - Learn how to work with a Bates Method Behavioral Optometrist or Ophthalmologist for a complete eye exam and be prescribed reduced, weaker and weaker eyeglass lenses (if needed for driving, work safety...) temporarily as vision is improving. Gain complete freedom from eyeglasses.

Treatments are Derived from Dr. Bates Better Eyesight Magazines and Books



Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

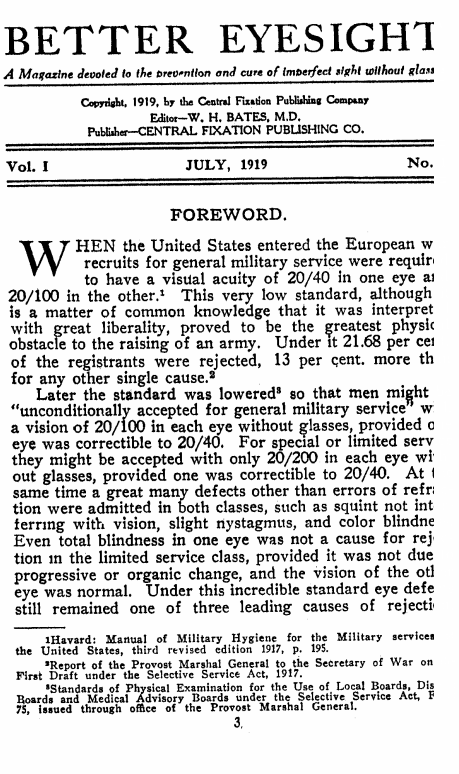
After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Dr. W. H. Bates



BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glass

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No.

FOREWORD.

WHEN the United States entered the European w recruits for general military service were requir to have a visual acuity of 20/40 in one eye a 20/100 in the other.[1] This very low standard, although is a matter of common knowledge that it was interpret with great liberality, proved to be the greatest physi obstacle to the raising of an army. Under it 21.68 per ce of the registrants were rejected, 13 per cent. more th for any other single cause.[2]

Later the standard was lowered[3] so that men might "unconditionally accepted for general military service" w a vision of 20/100 in each eye without glasses, provided o eye was correctible to 20/40. For special or limited serv they might be accepted with only 20/200 in each eye wi out glasses, provided one was correctible to 20/40. At t same time a great many defects other than errors of refr tion were admitted in both classes, such as squint not int terring with vision, slight nystagmus, and color blindne Even total blindness in one eye was not a cause for rej tion in the limited service class, provided it was not due progressive or organic change, and the vision of the otl eye was normal. Under this incredible standard eye defe still remained one of three leading causes of rejecti

[1]Havard: Manual of Military Hygiene for the Military services the United States, third revised edition 1917, p. 195.

[2]Report of the Provost Marshal General to the Secretary of War on First Draft under the Selective Service Act, 1917.

[3]Standards of Physical Examination for the Use of Local Boards, Dis Boards and Medical Advisory Boards under the Selective Service Act, F 75, issued through office of the Provost Marshal General.

3

Better Eyesight Magazine by Ophthalmologist William H. Bates

July-December Year 1919

THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA

GIVEN WITH LOVE TO THE
OPTOMETRY LIBRARY
BY
MONROE J. HIRSCH, O.D., Ph.D.

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

Fundamental Facts

Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
39-45 EAST 42nd STREET NEW YORK, N. Y.

Ophthalmologist
William H. Bates

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

July, 1919 - June, 1930 - 132 Magazine Issues

Central Fixation Publishing Co.

New York, N. Y. USA

July, 1919

Emily C. Lierman, Bates

Do you read imperfectly? Can you observe then that when you look a tthe first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?
Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses. If you fail, ask someone with perfect sight to help you.

Do You Read Imperfectly? - This first article and others are placed on page 2 on the inside cover of each monthly Better Eyesight Magazine issue. The articles consist of a variety of the Best of Dr. Bates Original Natural Eyesight Improvement Treatments, Activities. The student can copy, paste these into a small fine print booklet to carry in a pocket and practice in your spare time.

FOREWORD

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.1 This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent of the registrants were rejected, 13 per cent more than for any other single cause.2

Later the standard was lowered3 so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interfering with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection to the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

Over ten per cent, (10.65) of the registrants were disqualified by them, while defects of the bones and joints and of the heart and blood-vessels ran respectively one and one and a half percent higher.4 Most of the revelations about the physical condition of the American people which resulted from the operation of the draft law had been anticipated by persons who had been giving their attention to such matters - and whose warnings had long fallen upon deaf ears - but it is doubtful if anyone had formed an adequate conception of the truth regarding the condition of the nation's eyesight. That it should be impossible to raise an army with even half normal vision in one eye, and that one man in every ten rejected for military service should have been unable, even by the aid of glasses, to attain this standard, is a situation so appalling that words fail to characterize it, so incredible that only the most unimpeachable evidence could compel belief in it. Under these circumstances it seems to me the plain duty of anyone who has found any means of controlling the evil in question to give the facts the widest possible publicity.

Most writers on ophthalmology today appear to believe that defective eyesight is part of the price we must pay for civilization. The human eye, they say, was not designed for the uses to which it is now put. Eons before there were any schools, or printing presses, electric lights, or moving pictures, its evolution was complete. In those days it served the needs of the human animal perfectly, but it is not to be expected, we are told, that it should respond without injury to the new demands. By care it is thought that this injury may be minimized, but to eliminate it wholly is considered to be too much to hope for. Such is the depressing conclusion to which the monumental labors of a hundred years and more have led us.

I have no hesitation in stating that this conclusion is unqualifiedly wrong. Nature did not blunder when she made the human eye,

but has given us in this intricate and wonderful mechanism, upon which so much of the usefulness as well as the pleasure of life depends, an organ as fully equal to the needs of civilization as to those of the Stone Age. After thirty-three years of clinical and experimental work, I have demonstrated to my own satisfaction and that of others that the eye is capable of meeting the utmost demands of civilization; that the errors of refraction which have so long dogged the footsteps of progress, and which have made the raising of an army during the recent war so difficult, are both preventable and curable; and that many other forms of imperfect sight, long held to be incurable, may be either improved or completely relieved.

All these discoveries have been published in the medical press, but while their reliability has never been publicly disputed, the medical profession has so far failed to make use of them. Meantime the sight of our children is being destroyed daily in the schools, and our young men and women are entering life with a defect which, if uncorrected, must be a source of continual misery and expense to them, sometimes ending in blindness or economic ruin. Admitting for the sake of argument that I may be wrong in my conclusion that these things are unnecessary, it is time I was proven to be wrong. I should not be allowed to play on the forlorn hope of a suffering world. If I am right, as I know I am, a suffering world should no longer be deprived of the benefit of my discoveries.

To give publicity to these discoveries and arouse discussion regarding them is one of the objects for which this magazine has been started. At the same time its pages are open to everyone who has any light to throw upon the problem. It has too long been the custom of ophthalmologists to disregard every fact at variance with the accepted theories. Such facts, when observed, have usually not been published, and when published they have either been ignored or explained away in some more or less plausible manner. The management of this magazine wishes to make it a medium for the publication of such facts, which, it may safely be asserted, are known to every ophthalmologist of any experience, and which, if they had received proper consideration, would long ago have led us out of the blind alley in which we are now languishing.

While I think it may be truthfully said that many of my methods are new and original, other physicians, both in this country and in Europe, have cured themselves and others by treatment without glasses. Lay persons have done the same.

Fine Print – For Clear Close Vision

In *The Autocrat of the Breakfast Table*, Oliver Wendell Holmes published a very remarkable case of the cure of presbyopia.

"There is now living in New York State," he says, "an old gentleman who, perceiving his sight to fail, immediately took to exercising it on the finest print, and in this way fairly bullied Nature out of her foolish habit of taking liberties at five-and-forty, or thereabouts. And now this old gentleman performs the most extraordinary feats with his pen, showing that his eyes must be a pair of microscopes. I should be afraid to say how much he writes in the compass of a half-dime, whether the Psalms or the Gospels, or the Psalms and the Gospels, I won't be positive."[5]

An officer in the American Expeditionary Forces, whose letter is published elsewhere, wrote to me about a year ago that he has cured himself of presbyopia, and after half a lifetime of misery was entirely free from eye discomfort. There must be many more of these cases, and we want to hear of them.

(Five and forty=fifties, forties… year of age.) Reading fine print maintains clear close and distant vision at all ages and keeps the eyes healthy, prevents development of eye diseases.

FUNDAMENTAL FACTS

For about seventy years it has been believed that the eye accommodates for vision at different distances by changing the curvature of the lens, and this theory has given birth to another, namely, that errors of refraction are due to a permanent organic change in the shape of the eyeball. On these two ideas the whole system of treating errors of refraction is based at the present time.

My experiments and clinical observations have demonstrated that both these theories are wrong.[6] They have shown:

(1) That the lens is not a factor in accommodation;
(2) That the change of focus necessary for vision at different distances is brought about by the action of the superior and inferior obliques, which, by their contraction and relaxation, change the length of the eyeball as the length of the camera is changed by the shortening and lengthening of the bellows;
(3) That errors of refraction are due to the abnormal action of these muscles and of the recti, the obliques being responsible for myopia and the recti for hypermetropia, while both may combine in the production of astigmatism;
(4) That this abnormal action of the muscles on the outside of the eyeball is always due to mental strain of some kind.

This being the case it follows that all errors of refraction can be cured by relaxation. All methods of treatment, therefore, are simply different ways of obtaining relaxation. And because it is impossible to relax the eye muscles without relaxing the mind - and the relaxation of the mind means the relaxation of the whole body - it also follows that improvement in the eyesight is always accompanied by an improvement in health and mental efficiency.

The fact that all errors of refraction are functional can often be demonstrated within five minutes. When a person with myopia, hypermetropia, or astigmatism, looks at a blank wall without trying to see, the retinoscope, with a plane mirror, at six feet, indicates, in flashes or more continuously no error of refraction. The conditions should be favorable for relaxation and the doctor should be as much at his ease as the patient.

It can also be demonstrated with the retinoscope that persons with normal sight do not have it all the time.[7] When the vision of such persons becomes imperfect at the distance it will be found that myopic refraction has been produced;[8] when it becomes imperfect at the near point it will be found that hypermetropia has been produced.

CENTRAL FIXATION

An invariable symptom of all abnormal conditions of the eyes, whether functional or organic, is the loss of central fixation. When a person with perfect vision looks at a letter on the Snellen test card he can always observe that all the other letters in his field of vision are seen less distinctly. He can also observe that when he looks at the bottom of even the smallest letter on the card, the top appears less black and less distinct than the part directly regarded, while the same is true of a letter of diamond type, or of the smallest letters that are printed. When a person with imperfect sight looks at the card he can usually observe that when he can read a line of letters he is able to look at one letter of a line and see it better than the others, but the letters of a line he cannot read may look all alike, or those not directly regarded may even be seen better than the one fixed.

These conditions are due to the fact that when the sight is normal the sensitiveness of the fovea is normal, but when the sight is imperfect, from whatever cause, the sensitiveness of the fovea is lowered, so that the eye sees equally well, or even better, with other parts of the retina. Contrary to what is generally believed, the part seen best when the sight is normal is extremely small. **The text-books say that at twenty feet an area having a diameter of a quarter of an inch can be seen with maximum vision, but anyone who tries at this distance to see every part of one of the small letters of the Snellen test card - the diameter of which is about a quarter of an inch - equally well at one time will immediately become myopic. The fact is that the nearer the point of maximum vision approaches a mathematical point, which has no area, the better the sight.**

The cause of this loss of function in the center of sight is mental strain; and as all abnormal conditions of the eyes, organic as well as functional, are accompanied by mental strain, all such conditions must necessarily be accompanied by loss of central fixation. When the mind is under a strain the eye usually goes more or less blind. The center of sight goes blind first, partially or completely, according to the degree of the strain, and if the strain is great enough the whole or the greater part of the retina may be involved. When the vision of the center of sight has been suppressed, partially or completely, the patient can no longer see the point which he is looking at best, but sees objects not regarded directly as well, or better, because the sensitiveness of the retina has now become approximately equal in every part, or is even better in the outer part than in the center. Therefore in all cases of defective vision the patient is unable to see best where he is looking. When the person with imperfect vision sees the peripheral field clearest, it is not as clear as the central field is when the vision is normal.

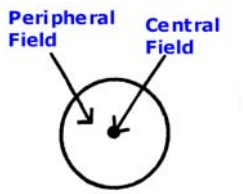
This condition is sometimes so extreme that the patient may look as far away from an object as it is possible to see it and yet see it just as well as when looking directly at it. In one case it had gone so far that the patient could see only with the edge of the retina on the nasal side. In other words, she could not see her fingers in front of her face, but could see them if she held them at the outer side of her eye. She had no error of refraction, showing that while every error of refraction is accompanied by eccentric fixation, the strain which causes the one condition is different from that which produces the other. The patient had been examined by specialists in this country and Europe, who attributed her blindness to disease of the optic nerve, or brain; but the fact that vision was restored by relaxation demonstrated that the condition had been due simply to mental strain.

Eccentric fixation, even in its lesser degrees, is so unnatural that great discomfort, or even pain, can be produced in a few seconds by trying to see every part of an area three or four inches in extent at twenty feet, or even less, or an area of an inch or less at the near point, equally well at one time, while at the same time the retinoscope will demonstrate that an error of refraction has been produced. This strain, when it is habitual, leads to all sorts of abnormal conditions and is, in fact, at the bottom of most eye troubles, both functional and organic. The discomfort and pain may be absent, however, in the chronic condition, and it is an encouraging symptom when the patient begins to experience them.

Natural health improvement doctors state; When health or vision is impaired, pain and other symptoms occur. When health/vision impairment increases, sometimes the pain, other uncomfortable symptoms vanish, are not felt. New symptoms may take their place. When healing occurs and the health/vision is reversing back to normal, is being corrected/cured; the old pains, symptoms may temporarily re-appear as the health/vision is passing backwards through previous beginning stages of the health or vision problem. Then, as the health/vision improves to perfect health, clear vision; the pain, symptoms are completely removed. Complete recovery without passing through pain, uncomfortable symptoms can also occur.

The center of the retina, macula and fovea centralis with its many cones produce the clearest vision and brightest color in the center of the visual field. The peripheral field of the retina produces less clear vision and less color in the peripheral field of vision. When the vision is normal, clear; the center of the visual field is clearest and the peripheral field less clear. The exact center of the visual field is produced by the fovea centralis and is the size of the pointed end of a pin and produces very clear vision, much clearer than 20/20 and brightest color, fine detailed vision, ability to see very small parts of objects at close and far distances.

Central fixation – To look at/see one small part of a object clearest at a time in the center of the visual field. Shifting is combined with central fixation- The eyes, center of the visual field moves, shifts continually from part to part (point to point) on a object to see the object clear. The center of the visual field also moves with the eyes from object to object seeing one object at as time clearest.
Natural Eyesight Improvement returns perfect clear central vision and brings the peripheral to its maximum possible clarity.



**Look at the dot on the top of the E.
The dot is in the center of the visual field and is clearest. The dot on the bottom is in the peripheral field and is less clear.
Shift dot to dot seeing one dot clearest at a time.**

When the eye possesses central fixation it not only possesses perfect sight, but it is perfectly at rest and can be used indefinitely without fatigue. It is open and quiet; no nervous movements are observable; and when it regards a point at the distance the visual axes are parallel. In other words, there are no muscular insufficiencies. This fact is not generally known. The text-books state that muscular insufficiencies occur in eyes having normal sight, but I have never seen such a case. The muscles of the face and of the whole body are also at rest, and when the condition is habitual there are no wrinkles or dark circles around the eyes.

In most cases of eccentric fixation, on the contrary, the eye quickly tires, and its appearance, with that of the face, is expressive of effort or strain. The ophthalmoscope reveals that the eyeball moves at irregular intervals, from side to side, vertically or in other directions. These movements are often so extensive as to be manifest by ordinary inspection, and are sometimes sufficiently marked to resemble nystagmus. Nervous movements of the eyelids may also be noted, either by ordinary inspection, or by lightly touching the lid of one eye while the other regards an object either at the near point or the distance. The visual axes are never parallel, and the deviation from the normal may become so marked as to constitute the condition of **squint**. Strain, eccentric fixation, diffusion causes squint, crossed, wandering eyes, imperfect convergence, divergence. Redness of the conjuctiva and of the margins of the lids, wrinkles around the eyes, dark circles beneath them and tearing are other symptoms of eccentric fixation.

Eccentric fixation is a symptom of strain, and is relieved by any method that relieves strain; but in some cases the patient is cured just as soon as he is able to demonstrate the facts of central fixation. When he comes to realize, through actual demonstration of the fact, that (when experiencing blur, eccentric fixation, diffusion, not seeing with the center of the visual field) he does not see best where he is looking, and that when he looks a sufficient distance away from a point (when the eyes are working correct, relaxed, with central fixation) he can see it worse than when he looks directly at it, he becomes able, in some way, to reduce the distance to which he has to look in order to see worse, until he can look directly at the top of a small letter and see the bottom worse, or look at the bottom and see the top worse. The smaller the letter regarded in this way, or the shorter the distance the patient has to look away from a letter in order to see the opposite part indistinctly, the greater the relaxation and the better the sight. When it becomes possible to look at the bottom of a letter and see the top worse, or to look at the top and see the bottom worse, it becomes possible to see the letter perfectly black and distinct. At first such vision may come only in flashes. The letter will come out distinctly for a moment and then disappear. But gradually, if the practice is continued, central fixation will become habitual.

Most patients can readily look at the bottom of the big C and see the top worse; but in some cases it is not only impossible for them to do this, but impossible for them to let go of the large letters at any distance at which they can be seen. In these extreme cases it sometimes requires considerable ingenuity, first to demonstrate to the patient that he does not see best where he is looking, and then to help him to see an object worse when be looks away from it than when he looks directly at it. The use of a strong light as one of the points of fixation, or of two lights five or ten feet apart, has been found helpful, the patient when he looks away from the light being able to see it less bright more readily than he can see a black letter worse when he looks away from it. It then becomes easier for him to see the letter worse when he looks away from it. This method was successful in the following case:

A patient with vision of 3/200, when she looked at a point a few feet away from the big C, said she saw the letter better than when she looked directly at it. Her attention was called to the fact that her eyes soon became tired and that her vision soon failed when she saw things in this way. Then she was directed to look at a bright object about three feet away from the card, and this attracted her attention to such an extent that she became able to see the large letter on the test card worse, after which she was able to look back at it and see it better. It was demonstrated to her that she could do one of two things: look away and see the letter better than she did before, or look away and see it worse. She then became able to see it worse all the time when she looked three feet away from it. Next she became able to shorten the distance successively to two feet, one foot and six inches, with a constant improvement in vision; and finally she became able to look at the bottom of the letter and see the top worse, or look at the top and see the bottom worse. With practice she became able to look at the smaller letters in the same way, and finally she became able to read the ten line at twenty feet. By the same method also she became able to read diamond type, first at twelve inches and then at three inches. By these simple measures alone she became able, in short, to see best where she was looking, and her cure was complete.

The highest degrees of eccentric fixation occur in the high degrees of myopia, and in these cases, since the sight is best at the near point, the patient is benefited by practicing seeing worse at this point. The distance can then be gradually extended until it becomes possible to do the same thing at twenty feet. One patient with a high degree of myopia said that the farther she looked away from an electric light the better she saw it, but by alternately looking at the light at the near point and looking away from it she became able, in a short time, to see it brighter when she looked directly at it than when she looked away from it. Later she became able to do the same thing at twenty feet, and then she experienced a wonderful feeling of relief. No words, she said, could adequately describe it. Every nerve seemed to be relaxed, and a feeling of comfort and rest permeated her whole body. Afterward her progress was rapid. She soon became able to look at one part of the smallest letters on the card and see the rest worse, and then she became able to read the letters at twenty feet.

On the principle that a burnt child dreads the fire, some patients are benefited by consciously making their sight worse. When they learn, by actual demonstration of the facts, just how their visual defects are produced, they unconsciously avoid the unconscious strain which causes them. When the degree of eccentric fixation is not too extreme to be increased, therefore, it is a benefit to patients to teach them how to increase it. **When a patient has consciously lowered his vision and produced discomfort and even pain by trying to see the big C, or a whole line of letters, equally well at one time, he becomes better able to correct the unconscious effort of the eye to see all parts of a smaller area equally well at one time.**
(experience strain=learn to avoid it.)

In learning to see best where he is looking it is usually best for the patient to think of the point not directly regarded as being seen less distinctly than the point he is looking at, instead of thinking of the point fixed as being seen best, as the latter practice has a tendency, in most cases, to intensify the strain under which the eye is already laboring. One part of an object is seen best only when the mind is content to see the greater part of it indistinctly, and as the degree of relaxation increases the area of the part seen worse increases until that seen best becomes merely a point.
(Exact center of visual field, fovea centralis, clearer than 20/20)

The limits of vision depend upon the degree of central fixation. A person may be able to read a sign half a mile away when he sees the letters all alike, but when taught to see one letter best he will be able to read smaller letters that he didn't know were there.

The remarkable vision of savages, who can see with the naked eye objects for which most civilized persons require a telescope, is a matter of central fixation. Some people can see the rings of Saturn, or the moons of Jupiter, with the naked eye. It is not because of any superiority in the structure of their eyes, but because they have attained a higher degree of central fixation than most civilized persons do.

Not only do all errors of refraction and all functional disturbances of the eye disappear when it sees by central fixation, but many organic conditions are relieved or cured. I am unable to set any limits to its possibilities. I would not have ventured to predict that glaucoma, incipient cataract and syphilitic iritis could be cured by central fixation; but it is a fact that these conditions have disappeared when central fixation was attained. Relief was often obtained in a few minutes, and sometimes this relief was permanent. Usually, however, a permanent cure required more prolonged treatment. Inflammatory conditions of all kinds, including inflammation of the cornea, iris, conjunctiva, the various coats of the eyeball and even the optic nerve itself, have been benefited by central fixation after other methods had failed. Infections, as well as diseases caused by protein poisoning and the poisons of typhoid fever, influenza, syphilis and gonorrhoea, have also been benefited by it. Even with a foreign body in the eye there is no redness and no pain so long as central fixation is retained.

Since central fixation is impossible without mental control, central fixation of the eye means central fixation of the mind. It means, therefore, health in all parts of the body, for all the operations of the physical mechanism depend upon the mind. Not only the sight, but all the other senses - touch, taste, hearing and smell - are benefited by central fixation. All the vital processes - digestion, assimilation, elimination, etc. - are improved by it. The symptoms of functional and organic diseases are relieved. The efficiency of the mind is enormously increased. The benefits of central fixation already observed are, in short, so great that the subject merits further investigation.

Central fixation example:
Look at the top part of the letter C. Place it in the center of the visual field. Shift on it to avoid staring. While looking at that part, in the center of the visual field; that part is clearest. Other parts of the C away from the part the eyes are looking directly at are in the peripheral field are seen worse, less clear. When the eyes move, shift to a new part, example; a part on the bottom of the C; this part is now in the center of the visual field, is clearest and the top of the C and other parts are in the peripheral field, away from the central field and are seen less clear.
Shift from part to part on the C and see one small part at a time clearest in the center of the visual field – Central Fixation.
Practice on large, then smaller letters, any objects, then on small objects, a fine print letter.
When the eyes can shift: small point to small point on a small object, small part of a object, fine print letter and use central fixation, vision is very clear.
Central fixation must be combined with shifting; shifting from point to point.
Central fixation does not mean to fix the eyes immobile on a point.

Look at/see clearest - one part (dot) of the C at a time, in the center of the visual field. The part (dot) in the peripheral field is less clear.

Eccentric fixation is – Diffusion – trying to see two or more objects or more than one part of a object at the same time, objects in the central and peripheral field equally clear at the same time. Not shifting from part to part, object to object. To space the visual attention out to cover the entire field without moving the eyes. Using the peripheral area of the retina and field of vision to see with, placing the object of visual attention in the peripheral field.

A TEACHER'S EXPERIENCES

A teacher forty years of age was first treated on March 28, 1919. She was wearing the following glasses: O. D. convex 0.75 D. S. with convex 4.00 D. C., 105 deg.; O. S. convex 0.75 D. S. with convex 3.50 D. C., 105 deg. On June 9, 1919, she wrote:

I will tell you about my eyes, but first let me tell you other things. You were the first to unfold your theories to me, and I found them good immediately - that is, I was favorably impressed from the start. I did not take up the cure because other people recommended it, but because I was convinced: first, that you believed in your discovery yourself; second, that your theory of the cause of eye trouble was true. I don't know how I knew these two things, but I did. After a little conversation with you, you and your discovery both seemed to me to bear the earmarks of the genuine article. As to the success of the method with myself I had a little doubt. You might cure others, but you might not be able to cure me, However, I took the plunge, and it has made a great change in me and my life.

To begin with, I enjoy my sight. I love to look at things, to examine them in a leisurely, thorough way, much as a child examines things. I never realized it at the time, but it was irksome for me to look at things when I was wearing glasses, and I did as little of it as possible. The other day, going down on the Sandy Hook boat, I enjoyed a most wonderful sky without that hateful barrier, of misted glasses, and I am positive I distinguished delicate shades of color that I never would have been able to see, even with clear glasses. Things seem to me now to have more form, more reality than when I wore glasses. Looking into the mirror you see a solid representation on a flat surface, and the flat glass can't show you anything really solid. My eye-glasses, of course, never gave me this impression, but one curiously like it. I can see so clearly without them that it is like looking around corners without changing the position. I feel that I can almost do it.

I very seldom have occasion to **palm**.[9] Once in a great while I feel the necessity of it. The same with **remembering a period**.[10] Nothing else is ever necessary. I seldom think of my eyes, but at times it is borne in upon me how much I do use and enjoy using them.

My nerves are much better. I am more equable, have more poise, am less shy. I never used to show that I was shy, or lacked confidence. I used to go ahead and do what was required, if not without hesitation, but it was hard. Now I find it easy. Glasses, or poor sight rather, made me self-conscious. It certainly is a great defect and one people are sensitive to without realizing it. I mean the poor sight and the necessity for wearing glasses. I put on a pair of glasses the other day just for an experiment, and I found that they magnified things. My skin looked as if under a magnifying glass. Things seemed too near. The articles on my chiffonier looked so close I felt like pushing them away from me. The glasses I especially wanted to push away. They brought irritation at once. I took them off and felt peaceful. Things looked normal.

I see better in the street than I ever did with glasses. I can see what people look like across the street, can distinguish their features, etc., a thing I could not do with glasses, or before I wore them. I can see better across the river and further into people's houses across the street. Not that I indulge, but I noticed an increase of power while looking out of the window in school.

Speaking of school, I corrected an immense pile of examination papers the other day, five hours at a stretch, with an occasional look off the paper and an occasional turn about the room. I felt absolutely no discomfort after it. Two weeks previous to this feat I handled two hundred designs over and over again, looking at each one dozens and dozens of times to note changes and improvement in line and color. Occasionally, while this work was going on. I had to palm in the mornings on rising.

I use my eyes with as much success writing, though once in a while after a lot of steady writing they are a little bit tired. I can read at night without having to get close to a light. I mention this because last summer I had to sit immediately under the light, or I could not see.

From the beginning of the treatment I could use my eyes pretty well, but they used to tire. I remember making a large Liberty Loan poster two weeks after I took off my glasses, and I was amazed to find I could make the whole layout almost perfectly without a ruler, just as well as with my glasses. When I came to true it up with the ruler I found only the last row of letters a bit out of line at the very end. I couldn't have done better with glasses. However this wasn't fine work. About the same time I sewed a hem at night in a black dress, using a fine needle. I suffered a little for this, but not much. I used to practice my exercises at that time and palm faithfully. Now I don't have to practice, or palm; I feel no discomfort, and I am absolutely unsparing in my use of my eyes. I do everything I want to with them. I shirk nothing, pass up no opportunity of using them. From the first I did all my school work, read every notice, wrote all that was necessary, neglected nothing. Everything I was called upon to do I attempted. For instance, I had to read President Wilson's "Fourteen Points" in the assembly room without notice in a poor light-unusual wording, too,-and I read it unhesitatingly. I have yet to fail to make good.

Now to sum up the school end of it, I used to get headaches at the end of the month from adding columns of figures necessary to reports, etc. Now I do not get them. I used to get flustered when people came into my room. Now I do not; I welcome them. It is a peasant change to feel this way. And-I suppose this is most important really, though I think of it last-I teach better. I know how to get at the mind and how to make the children see things in perspective. I gave a lesson on the horizontal cylinder recently, which, you know, is not a thrillingly interesting subject, and it was a remarkable lesson in its results and in the grip it got on every girl in the room, stupid and bright. What you have taught me makes me use the memory and imagination more, especially the latter, in teaching.

Now, to sum up the effect of being cured upon my own mind. I am more direct, more definite, less diffused, less vague. In short, I am conscious of being better centered. It is central fixation of the mind. I saw this in your latest paper, but I realized it long ago and knew what to call it.

ARMY OFFICER CURES HIMSELF

An engineer, fifty-one years of age, had worn glasses since 1896, first for astigmatism, getting stronger ones every couple of years, and then for astigmatism and presbyopia. At one time he asked his oculist and several opticians if the eyes could not be strengthened by exercises, so as to make glasses unnecessary, but they said: "No. Once started on glasses you must keep to them." When the war broke out he was very nearly disqualified for service in the Expeditionary Forces by his eyes, but managed to pass the required tests, after which he was ordered abroad as an officer in the Gas Service. While there he saw in the Literary Digest of May 2, 1918, a reference to my method of curing defective eyesight without glasses, and on May 11 he wrote to me in part as follows:

At the front I found glasses a horrible nuisance, and they could not be worn with gas masks. After I had been about six months abroad I asked an officer of the Medical Corps about going without glasses. He said I was right in my ideas and told me to try it. The first week was awful, but I persisted and only wore glasses for reading and writing. I stopped smoking at the same time to make it easier on my nerves.

I brought to France two pairs of bow spectacles and two extra lenses for repairs. I have just removed the extra piece for near vision from these extra lenses and had them mounted as pince-nez, with shur-on mounts, to use for reading and writing, so that the only glasses I now use are for astigmatism, the age lens being off. Three months ago I could not read ordinary head-line type in newspapers without glasses. Today, with a good light, I can read ordinary book type (18 point), held at a distance of eighteen inches from my eyes. Since the first week in February, when I discarded my glasses, I have had no headaches, stomach trouble, or dizziness, and am in good health generally. My eyes are coming back, and I believe it is due to sticking it out. I ride considerably in automobiles and trams, and somehow the idea has crept into my mind that after every trip my eyes are stronger. This, I think, is due to the rapid changing of focus in viewing scenery going by so fast.

Other men have tried this plan on my advice, but gave it up after two or three days. Yet, from what they say, I believe they were not so uncomfortable as I was for a week or ten days.

I believe most people wear glasses because they "coddle" their eyes.

July, 1919 footnotes

1 - Harvard: Manual of Military Hygiene for the Military services of United States, third revised edition 1917, p. 195.
2 - Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917.
3 - Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 75, issued through office of the Provost Marshal General.
4 - Second Report of the Provost Marshal General to the Secretary of War on the Operations of the Selective Service System to December 20, 1918.
5 - Everyman's Library, 1908, pp. 166 and 167.
6 - Bates: The Cure of Defective Eyesight by Treatment Without Glasses. N. Y. Med. Jour., May 8, 1915. A Study of Images Reflected from the Cornea, Iris, Lens and Sclera. N. Y. Med. Jour., May 18, 1918.
7 - Bates: The Imperfect Sight of the Normal Eye. N. Y. Med. Jour., Sept 8, 1917.
8 – Bates: The Cause of Myopia. N. Y. Med. Jour., March 16, 1912.
9 - By palming is meant the covering of the closed eyes with the palms of the hands in such a way as to exclude all the light, while remembering some color, usually black.
10 - Bates: *Memory as an Aid to Vision.* N. Y. Med. Jour., May 24, 1919.

SCHOOL NUMBER
BETTER EYESIGHT
A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES
August, 1919

How to Use the Snellen Test Card
FOR THE
Prevention and Cure of Imperfect Sight in Children

The Snellen Test Card is placed permanently upon the wall of the classroom, and every day the children silently read the smallest letters they can see from their seats with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. This takes no appreciable amount of time, and is sufficient to improve the sight of all children in one week and to cure all errors of refraction after some months, a year, or longer.

Children with markedly defective vision should be encouraged to read the card more frequently.

Records may be kept as follows:

John Smith, 10, Sept. 15, 1918.
R. V. (vision of the right eye) 20/40.
L. V. (vision of the left, eye) 20/20.

John Smith, 11, Jan. 1, 1919.
R. V. 20/30.
L. V. 20/15.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

For Sale By
THE CENTRAL FIXATION PUBLISHING COMPANY

Paper ....50 Cents
Cardboard (folding) .....75 Cents

DELIVERED

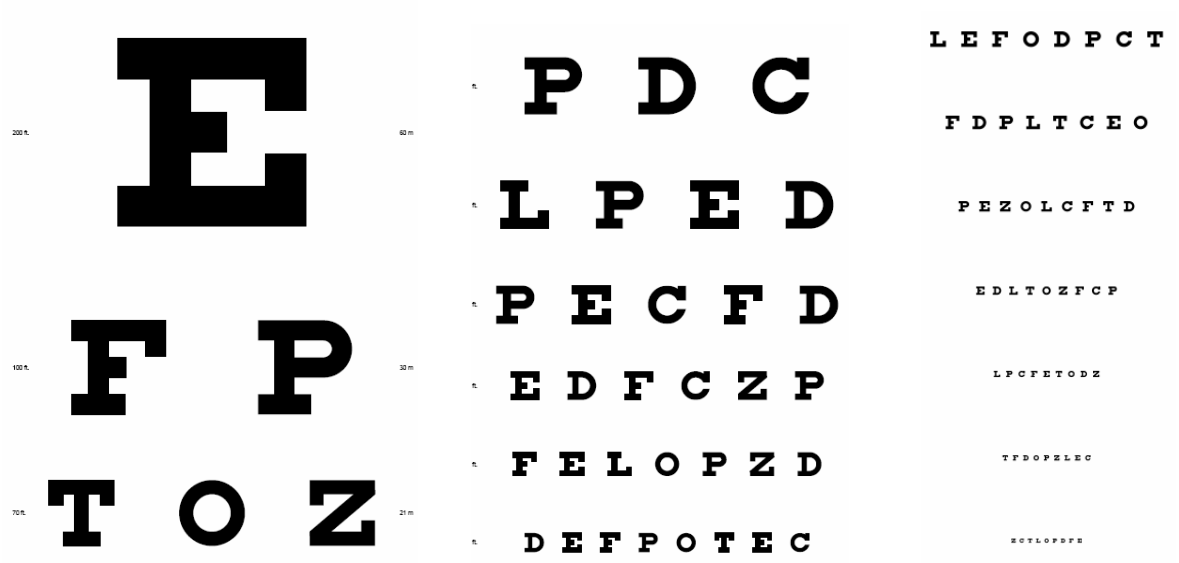
A limited number of reprints of articles by Dr. Bates published in other medical journals also for sale. Send for list.

20/20

The numerator (top number) of the fraction indicates the distance of the test card from the pupil;
The denominator (bottom number) denotes the line read, as designated by the figures printed above the middle of each line of the Snellen Test Card.

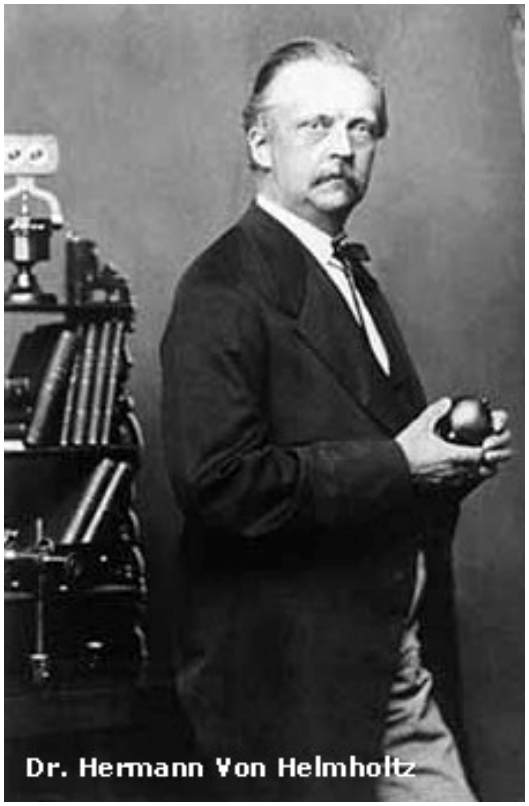
A certain amount of supervision is absolutely necessary. At least once a year some one who understands the method should visit each classroom for the purpose of answering questions, encouraging the teachers to continue the use of the method, and making a report to the proper authorities.

It is not necessary that either the inspector, the teachers, or the children, should understand anything about the physiology of the eye.



Dr. Hermann Von Helmholtz

Inventor of the Ophthalmoscope



Hermann Von Helmholtz (1821–1894) A German Physician, Physicist

Dr. Helmholtz studied and contributed to developments in mechanics, physics, science, mathematics, energy conservation, electrodynamics, fluid dynamics, thermodynamics, chemical thermodynamics, chemistry, electricity, magnetism, meteorology, philosophy, fine arts, physiology of the eye and the ear, hearing, acoustics, motion perception, physiological optics, mathematics of the eye, theories of vision, visual perception of space, color vision, color blindness, dioptrics (study of the refraction of light, especially by lenses) of the eye and many other areas of science.
He studied electrodynamics by Michael Faraday and James Clerk Maxwell, began the revolution in wireless communication, wrote the 'Handbook of Physiological Optics'.

He invented the Ophthalmoscope to examine/inspect the interior of the eye/retinal blood vessels, detect high blood pressure and arterial disease… He also invented the Ophthalmometer to measure the eyes accommodation/the eye's curvature.

Dr. Helmholtz created the 'Theory of Accommodation' – which states that the human eyes lens changes shape due to the action of the Ciliary Muscle to produce accommodation in the eye for clear vision when looking at close distances.

For years the Optical Industry, Eye Doctors stated Helmholtz's Theory as an absolute fact and stated that due to this fact, unclear vision cannot be cured, that only glasses, surgery, drugs can correct unclear vision and other eye problems.

Dr. William H. Bates, Ophthalmologist, eye, ear… doctor proved that the outer eye muscles (Oblique, Recti) can change the shape of the eye, produce accommodation and affect the clarity of vision. Relaxed, normally functioning outer eye muscles produced clear vision. Bates stated the lens does not produce accommodation. Dr. Bates proved as fact that unclear vision and a variety of other eye problems can be corrected, cured by natural methods of relaxing the mind, body, eye muscles, returning mind, body, eye muscles, eyes to normal function without eyeglasses, surgery, drugs. The Bates Method.

Modern day Ophthalmologists state that: with new technology, they have proven that the lens does change shape and can produce accommodation.

Some Scientists, Ophthalmologists state that Helmholtz and Bates were correct, that the eye and lens change shape, work together (and the lens might also move) to produce accommodation.

The Bates Method relaxes, improves function, health of the entire visual system, eyes, mind, body and relaxes, improves function of all the eye muscles; outer (Oblique, Recti & other outer muscles), inner (ciliary/lens, iris…) and continues to produce clear vision for over 100 years. Even before Bates time, the Bates Method was used naturally by the human eye.

Third Monthly Meeting
BETTER EYESIGHT LEAGUE
8:00 P. M., JUNE 13th
Room 504
300 MADISON AVENUE NEW YORK CITY

Doctors are needed all over the world to cure people without glasses.

Snellen Test Cards

THERE should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when sight is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

PAPER ..... 50 CENTS
CARDBOARD (*folding*)..75 CENTS
DELIVERED

Back numbers BETTER EYESIGHT.....$ .30
Bound vols., 1st and 2nd years, each..... 4.25
Photographic reductions of the Bible..... 4.00
Ophthalmoscopes (best quality)..... 20.00
Retinoscopes 4.00
Burning glasses 5.00
Reprints of articles by Dr. Bates in other medical journals: a limited number for sale. Send for list.

For Sale By
Central Fixation Publishing Company
300 Madison Avenue, New York City

15

Have You a Bible?

You all know fine print is beneficial.
Do you practice reading it?
Doctor Bates has proven that by reading a few lines of very fine print daily you are giving your eyes the relaxing "exercise" that will tend to prevent many common defects.
We publish a Bible that is printed in microscopic type, and measures one by one and a half inches and contains the new and old Testament.
Many patients past fifty have learned to read this with ease.
Price $4.00

Snellen Test Cards

THERE should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when sight is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

PAPER ..... 50 CENTS
CARDBOARD (*folding*). 75 CENTS
DELIVERED

Back numbers BETTER EYESIGHT.....$ .30
Bound vols., 1st, 2nd and 3rd years, each.. 4.25
Photographic reduction of the Bible..... 4.00
Ophthalmoscopes, with and without Battery, from .....10.00 to 50.00
Retinoscopes 4.00
Burning glasses 5.00
Reprints of articles by Dr. Bates in other medical journals: a limited number for sale. Send for list.

For Sale By
Central Fixation Publishing Company
383 Madison Avenue, New York City

The Snellen Test Card

OWING to the many inquiries requesting information for the use of the Snellen Test Card, we have had little booklets printed explaining its value and how to use it in relation with Dr. Bates' method of treating imperfect sight. We shall be glad to send one of these on request.
In addition to the Snellens, we have what we call the Various Cards. These were made especially for those who have memorized the Snellen, and think that their good sight is due to the fact that they know what letter is coming. This is proof positive of one of Dr. Bates' statements that familiar things are more readily seen.

Children's Cards

CARDS for children's use, particularly, are printed with pictures of animals, and everyday objects. Many "games" can be played with these, much to the children's benefit.
The Various Cards cost one dollar each.

Better Eyesight
(Back Numbers)

ALL back numbers of the "Better Eyesight Magazine" can be obtained at this office, at thirty cents per copy. If you are doubtful as to just what issue you desire, tell us your defect, and we will send the number dealing with that subject.

Fine Print IS Beneficial!!!

EVERYONE who uses Dr. Bates' method should know why. Do you?
If not, send for the booklet of fine print, and help yourself to see.
If you do know, send for the booklet—and prove it.
25 cents per copy

For Sale By
Central Fixation Publishing Company
383 Madison Avenue, New York City

A HOUSE BUILT ON SAND

That the results of the present method of treating defects of vision are far from satisfactory is something which no one would attempt to deny. It is well known that many patients wander from one specialist to another, seeking vainly for relief, while others give up in despair and either bear their visual ills as best they may without assistance, or else resort to Christian Science, mental science, osteopathy, physical culture, or some of the other healing cults to which the incompetence of orthodox medicine has given birth. The specialists themselves, having daily to handle each other's failures, are scarcely better satisfied. Privately they criticize each other with great asperity and freedom, and publicly they indulge in much speculation as to the underlying causes of this deplorable state of affairs.

At the recent meeting of the Ophthalmological Section of the American Medical Association, Dr. E. J. Gardiner, of Chicago, in a paper on *The Present Status of Refraction Work*,[1] finds that ignorance is responsible for the largest quota of failure to get satisfactory results from what he calls the "rich heritage" of ophthalmic science, but that a considerable percentage must be attributed to other causes. Among these causes he enumerates a too great dependence on measuring devices, the delegation of refraction work to assistants, and the tendency to eliminate cycloplegics, in deference to the prejudices of patients who have a natural objection to being incapacitated by "drops."

On the same occasion, Dr. Samuel Theobald, of Johns Hopkins University, noted a tendency to "minimize the importance of muscular anomalies" as an important cause of many failures to give relief to eye patients. Among cases that have come into his hands after glasses had been prescribed by other ophthalmologists he has often found that "though great pains had been taken to correct even minor faults of refraction, grave muscular errors had been entirely overlooked." From this fact and from the small number of latent muscular defects noted in the hospital reports which he has examined, the conclusion seems to him inevitable that such faults are in large measure ignored.

Dr. Walter Pyle, of Philadelphia, laid stress on "necessary but often neglected refinements in examination of ocular refraction." "Long practice, infinite care and attention to finer details," he said, "are imperative requisites, since a slight fault in the correction of a refractive error aggravates rather than relieves the accompanying asthenopic symptoms." This care, he says, must be exercised not only by the oculist but by the optician, and to the end that the latter may be inspired to do his part, he suggests that the oculist provide himself with the means for keeping tabs on him in the form of a mechanical lens measure, axis finder and centering machine.

Dr. Charles Emerson, of the Indiana University School of Medicine, suggested a closer co-operation between the ophthalmologist and the physician, as there were many patients who could not be helped by the ophthalmologist alone.

The fitting of glasses by opticians is usually condemned without qualification, but in the discussion which followed these papers, Dr. Dunbar Roy, of Atlanta, said that the optician, just because he does not use cycloplegics, frequently fits patients with comfortable glasses where the ophthalmologist has failed. When a patient needs glasses, said Dr. Roy, he needs them when his eyes are in their natural or normal condition and not when the muscle of accommodation is partially paralyzed. Even the heavy frames used in the adjustment of trial lenses were not forgotten in the search for possible causes of failure, Dr. Roy believing that the patient is often so annoyed by these contrivances that he does not know which is causing him the most discomfort, the frames or the glasses.

Nowhere in the whole discussion was there any suggestion that this great mass of acknowledged failure could possibly be due to any defect in fundamental principles. These are a "rich heritage," the usefulness of which is not to be questioned. If they do not

produce satisfactory results, it must be due to their faulty application, and it is taken for granted that there are a select few who understand and are willing to take the trouble to use them properly.

The simple fact, however, is that the fitting of glasses can never be satisfactory. The refraction of the eye is continually changing.[2] Myopia, hypermetropia and astigmatism come and go, diminish and increase, and the same adjustment of glasses cannot suit the affected eyes at all times. One may be able, in many cases, to make the patient comfortable, to improve his sight, or to relieve nervous symptoms; but there will always be a considerable number of persons who get little or no help from glasses, while practically everyone who wears them is more or less dissatisfied. The optician may succeed in making what is considered to be a satisfactory adjustment, and the most eminent ophthalmologist may fail. I personally know of one specialist, a man of international reputation, who fitted a patient sixty times with glasses without affording him the slightest relief.

And even when the glasses do what is expected of them they do very little. Considering the nature of the superstructure built on the foundation of Donders, and the excellent work being done by leading men, Dr. Gardiner thinks the present status of refraction work might be deemed eminently satisfactory if it were not for the great amount of bad and careless work being done; but I do not consider it satisfactory when all we can do for people with imperfect sight is to give them eye crutches that do not even check the progress of the trouble, when the only help we can offer to the millions of myopic and hypermetropic and astigmatic and squinting children in our schools is to put spectacles on them. If this is the best that ophthalmology can do after building for three-quarters of a century upon the foundation of Donders, is it not time that we began to examine that foundation of which Dr. Gardiner boasts that "not one stone has been removed"? Instead of seeking the cause of our failure to accomplish even the little we claim to be able to do in the ignorance and carelessness of the average practitioner, great as that ignorance and carelessness often are; in the neglect of cycloplegics and the refinements of lens adjustment: in the failure to detect latent muscular anomalies; in the absence of co-operation between specialist and general practitioner: would it not be wiser to examine the foundation of our superstructure and see whether it is of stone or of sand?

THE PREVENTION OF MYOPIA

Methods That Failed

The publication in 1867 by Professor Hermann Cohn of Breslau of a study of the eyes of ten thousand school children first called general attention to the fact that while myopia is seldom found in the pre-school age, the defect increases steadily both in percentage of cases and in degree during the educational period. Professor Cohn's investigations were repeated in all the advanced countries, and his observations, with some difference in percentages, were everywhere confirmed. The conditions were unanimously attributed to the excessive use of the eyes for near work, and as it was impossible to abandon the educational system, attempts were made to minimize the supposed evil effects of the reading, writing and other near work which it demanded. Careful and detailed rules were laid down by various authorities as to the size of type to be used in school books, the length of the lines, their distance apart, the distance at which the book should be held, the amount and arrangement of the light, the construction of the desks, the length of time the eyes might be used without a change of focus, etc. Face rests were even devised to hold the eyes at the prescribed distance from the desk and to prevent stooping, which was supposed to cause congestion of the eyeball and thus to encourage elongation. The Germans, with characteristic thoroughness, actually used these instruments of torture, Cohn never allowing his children to write without one, "even at the best possible desk."[3]

The results of these preventive measures were disappointing. Some observers reported a slight decrease in the percentage of myopia in schools in which the prescribed reforms had been made; but on the whole, as Risley has observed in his discussion of the subject in Norris and Oliver's *System of Diseases of the Eye*, "the injurious effects of the educational process were not noticeably arrested."

"It is a significant, though discouraging fact," he continues, "that the increase, as found by Cohn, both in the percentage and in the degree of myopia, had taken place in those schools where he had especially exerted himself to secure the introduction of hygienic forms, and the same is true of the observations of Just, who had examined the eyes of twelve hundred and twenty-nine of the pupils of the two High Schools of Zittau, in both of which the hygienic conditions were all that could be desired. He found, nevertheless, that the excellent arrangements had not in any degree lessened the percentage of increase in myopia. It became necessary, therefore, to look beyond faulty hygienic environments for the cause of the pathological states represented by Myopia."[4]

With the passage of time further evidence to the same effect has steadily accumulated. In an investigation in London, for instance, in which the schools were carefully selected to reveal any difference that might arise from the various influences, hygienic, social and racial, to which the children were subjected, the proportion of myopia in the best lighted and ventilated school of the group was actually found to be higher than in the one where these conditions were worst.[5] It has also been found that there is just as much myopia in schools where little near work is done as in those in which the demands upon the accommodative power of the eye are greater, while in any case it is only a minority of the children in any school who become myopic, although all may be exposed to practically the same eye conditions. Dr. Adolf Steiger, in his recent hook on *Spherical Refraction*, bears witness, after a comprehensive survey of the whole question, to the "absolutely negative results of school hygiene,"[6] and Dr. Sidler-Huguenin reports[7] that in the thousands of cases that have come under his care he has observed no appreciable benefit from any method of treatment at his command.

Facts of this sort have led to a modification of the myopia theory, but have produced no change in methods of myopia prevention. An hereditary tendency toward the development of the defect is now assumed by most authorities; but although no one has ever been able to offer even a plausible explanation for its supposed injuriousness, and though its restriction has been proven over and over again to be useless, near work is still generally held to be a contributing cause and ophthalmologists still go on in the same old way, trying to limit the use of the eyes at the near-point and encourage vision at the distance. It is incomprehensible that men calling themselves scientific, and having had at least a scientific training, can be so foolish. One might excuse a layman for such irrational conduct, but how men of scientific repute who are supposed to write authoritative textbooks can go on year after year copying each other's mistakes and ignoring all facts which are in conflict with them is a thing which reasonable people can hardly be expected to

understand.

In 1912,[8] and a good many times since, I published the observation that myopia is always lessened when the subject strains to see at the near point, and always produced in the normal eye when the subject strains to see at the distance. These observations are

of the greatest practical importance, for if they are correct, they prove our present methods of preventing myopia to be a monumental blunder. Yet no one, so far as I have heard, has taken the trouble to test their accuracy. I challenged the medical profession to produce a single exception to the statements I made in the 1912 publication, and that challenge has stood for seven years, although every member of the Ophthalmological Section of the American Medical Association must have had an opportunity to see it, and anyone who knows how to use a retinoscope could have made the necessary tests in a few minutes. If any did this, they failed to publish the results of their observations, and are, therefore, responsible for the effects of their silence. If they found that I was right and neglected to say so, they are responsible for the fact that the benefits that must ultimately result from this discovery have been delayed. If they found that I was wrong, they are responsible for any harm that may have resulted from their indifference.

THE PREVENTION AND CURE OF MYOPIA AND OTHER ERRORS OF REFRACTION

A Method That Succeeded

You cannot see anything with perfect sight unless you have seen it before. When the eye looks at an unfamiliar object it always strains more or less to see that object, and an error of refraction is always produced. When children look at unfamiliar writing, or figures, on the blackboard, distant maps, diagrams, or pictures, the retinoscope always shows that they are myopic, though their vision may be under other circumstances absolutely normal. The same thing happens when adults look at unfamiliar distant objects. When the eye regards a familiar object, however, the affect is quite otherwise. Not only can it be regarded without strain, but the strain of looking later at unfamiliar objects is lessened.

This fact furnishes us with a means of overcoming the mental strain to which children are subjected by the modern educational system. It is impossible to see anything perfectly when the mind is under a strain, and if children become able to relax when looking at familiar objects, they become able, sometimes in an incredibly brief space of time, to maintain their relaxation when looking at unfamiliar objects.

I discovered this fact while examining the eyes of 1,500 school children at Grand Forks, N. D., in 1903.[9] In many cases children who could not read all of the letters on the Snellen test card at the first test read them at the second or third test. After a class had been examined the children who had failed would sometimes ask for a second test, and then it often happened that they would read the whole card with perfect vision. So frequent were these occurrences that there was no escaping the conclusion that in some way the vision was improved by reading the Snellen test card. In one class I found a boy who at first appeared to be very myopic, but who, after a little encouragement, read all the letters on the test card. The teacher asked me about this boy's vision, because she had found him to be very "near-sighted." When I said that his vision was normal she was incredulous, and suggested that he might have learned the letters by heart, or been prompted by another pupil. He was unable to read the writing or figures on the blackboard, she said, or to see the maps, charts, and diagrams on the walls, and did not recognize people across the street. She asked me to test his sight again, which I did, very carefully, under her supervision, the sources of error which she had suggested being eliminated. Again the boy read all the letters on the card. Then the teacher tested his sight. She wrote some words and figures on the blackboard and asked him to read them. He did so correctly. Then she wrote additional words and figures, which he read equally well. Finally she asked him to tell the hour by the clock twenty-five feet distant, which he did correctly. It was a dramatic situation, both the teacher and the children being intensely interested. Three other cases in the class were similar, their vision, which had previously been very defective for distant objects, becoming normal in the few moments devoted to testing their eyes. It is not surprising that after such a demonstration the teacher asked to have a Snellen test card placed permanently in the room.

Practice shifting on a familiar object - letters on a test card daily with; Both eyes together, one eye at a time, both eyes together again.

The children were directed to read the smallest letters they could see from their seats at least once every day, with both eyes together and with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. (Use of eye patch is best so the hand does not need to be held up – holding hand up to eye causes the muscles in hand, arm, shoulder, neck, then eyes to become tense.)

Those whose vision was defective were encouraged to read it more frequently, and in fact needed no encouragement to do so after they found that the practice helped them to see the blackboard, and stopped the headaches, or other discomfort, previously resulting from the use of their eyes.

In another class of forty children, between six and eight, thirty of the pupils gained normal vision while their eyes were being tested. The remainder were cured later under the supervision of the teacher by exercises in distant vision with the Snellen card. This teacher had noted every year for fifteen years that at the opening of the school in the fall all the children could see the writing on the blackboard from their seats, but before school closed the following spring all of them without exception complained that they could not see it at a distance of more than ten feet. After learning of the benefits to be derived from the daily practice of distant vision with familiar objects as the points of fixation, this teacher kept a Snellen test card continually in her classroom and directed the children to read it every day. The result was that for eight years no more of the children under her care acquired defective eyesight.

This teacher had attributed the invariable deterioration in the eyesight of her charges during the school year to the fact that her classroom was in the basement and the light poor. But teachers with well-lighted classrooms had the same experience, and after the Snellen test card was introduced into both the well-lighted and the poorly lighted rooms, and the children read it every day, the deterioration of their eyesight not only ceased, but the vision of all improved. Vision which had been below normal improved, in most cases, to normal, while children who already had normal sight, usually reckoned at 20/20, became able to read 20/15 or 20/10. And not only was myopia cured, but the vision for near objects was improved.

At the request of the superintendent of the schools of Grand Forks, Mr. J. Nelson Kelly, the system was introduced into all the schools of the city and was used continuously for eight years, during which time it reduced myopia among the children, which I found at the beginning to be about six per cent, to less than one per cent.

In 1911 and 1912 the same system was introduced into some of the schools of New York City[10] with an attendance of about ten thousand children. Many of the teachers neglected to use the cards, being unable to believe that such a simple method, and one so entirely at variance with previous teaching on the subject, could accomplish the desired results. Others kept the cards in a closet except when they were needed for the daily eye drill, lest the children should memorize them. Thus they not only put an unnecessary burden upon themselves, but did what they could to defeat the purpose of the system, which is to give the children **daily exercise in distant vision with a familiar object as the point of fixation**. A considerable number, however, used the system intelligently and persistently, and in less than a year were able to present reports showing that of three thousand children with imperfect sight over one thousand had obtained normal vision by its means. Some of these children, as in the case of the children of Grand Forks, were cured in a few minutes. Many of the teachers were also cured, some of them very quickly. In some cases the results of the system were so astonishing as to be scarcely credible.

In a class of mental defectives, where the teacher had kept records of the eyesight of the children for several years, it had been invariably found that their vision grew steadily worse as the term advanced. As soon as the Snellen test card had been introduced, however, they began to improve. Then came a doctor from the Board of Health who tested the eyes of the children and put glasses on all of them, even those whose sight was fairly good. The use of the card was then discontinued, as the teacher did not consider it proper to interfere while the children were wearing glasses prescribed by a physician. Very soon, however, the children began to lose, break, or discard, their glasses. Some said that the spectacles gave them headaches, or that they felt better without them. In the course of a month or so most of the aids to vision which the Board of Health had supplied had disappeared. The teacher then felt herself at liberty to resume the use of the Snellen test card. Its benefits were immediate. The eyesight and the mentality of the children improved simultaneously, and soon they were all drafted into the regular classes, because it was found that they were making the same progress in their studies as the other children were.

Another teacher reported an equally interesting experience. She had a class of children who did not fit into the other grades. Many of them were backward in their studies. Some were persistent truants. All of them had defective eyesight. A Snellen test card was hung in the classroom where all the children could see it, and the teacher carried out my instructions literally. At the end of six months all but two had been cured and these had improved very much, while the worst incorrigible and the worst truant had become good students. The incorrigible, who had previously refused to study, because, he said, it gave him a headache to look at a book, or at the blackboard, found out that the test card, in some way, did him a lot of good; and although the teacher had asked him to read it but once a day, he read it whenever he felt uncomfortable. The result was that in a few weeks his vision had become normal and his objection to study had disappeared. The truant had been in the habit of remaining away from school two or three days every week, and neither his parents nor the truant officer had been able to do anything about it. To the great surprise of his teacher he never missed a day after having begun to read the Snellen test card. When she asked for an explanation he told her that what had driven him away from school was the pain that came in his eyes whenever he tried to study, or to read the writing on the blackboard. After reading the Snellen test card, he said, his eyes and head were rested and he was able to read without any discomfort.

To remove any doubts that might arise as to the cause of the improvement noted in the eyesight of the children comparative tests were made with and without cards. In one case six pupils with defective sight were examined daily for one week without the use of the test card. No improvement took place. The card was then restored to its place and the group was instructed to read it every day. At the end of a week all had improved and five were cured. In the case of another group of defectives the results were similar. During the week that the card was not used no improvement was noted, but after a week of exercises in distant vision with the card all showed marked improvement, and at the end of a month all were cured. In order that there might be no question as to the reliability of the records of the teachers some of the principals asked the Board of Health to send an inspector to test the vision of the pupils, and whenever this was done the records were found to be correct. Dr. Bates has the children read the eyechart with both eyes together, then one eye at a time, then both eyes together again. He also has the children look close and distant, shifting on exact letters on two identical eyecharts placed at close and far distances. Also done with both eyes together, then one eye at a time, then both eyes together again. If vision needs more improvement in one eye, extra time is spent practicing with that eye to bring the vision equally clear, perfect in both left and right eyes. Basic Behavioral Optometry.

One day I visited the city of Rochester, and while there I called on the Superintendent of Public Schools and told him about my method of preventing myopia. He was very much interested and invited me to introduce it in one of his schools. I did so, and at the end of three months a report was sent to me showing that the vision of all the children had improved, while quite a number of them had obtained perfect sight in both eyes.

The method has been used in a number of other cities and always with the same result. The vision of all the children improved, and many of them obtained perfect sight in the course of a few minutes, days, weeks or months.

It is difficult to prove a negative proposition, but since this system improved the vision of all the children who used it, it follows that none could have grown worse. It is therefore obvious that it must have prevented myopia. This cannot be said of any method of preventing myopia in schools which had previously been tried. All other methods are based on the idea that it is the excessive use of the eyes for near work that causes myopia, and all of them have admittedly failed.

It is also obvious that the method must have prevented other errors of refraction, a problem which previously had not even been seriously considered, because hypermetropia is supposed to be congenital, and astigmatism was until recently supposed also to be congenital in the great majority of cases. Anyone who knows how to use a retinoscope may, however, demonstrate in a few minutes that both of these conditions are acquired; for no matter how astigmatic or hypermetropic an eye may be, its vision always becomes normal when it looks at a blank surface without trying to see. It may also be demonstrated that when children are learning to read, write, draw, sew, or to do anything else that necessitates their looking at unfamiliar objects at the near-point, hypermetropia, or hypermetropic astigmatism, is always produced. The same is true of adults. These facts have not been reported before, so far as I am aware, and they strongly suggest that children need, first of all, eye education. They must be able to look at strange letters or objects at the near-point without strain before they can make much progress in their studies, and in every case in which the method has been tried it has proven that this end is attained by daily exercise in distant vision with the Snellen test card. When their distant

vision has been improved by this means children invariably become able to use their eyes without strain at the near-point.

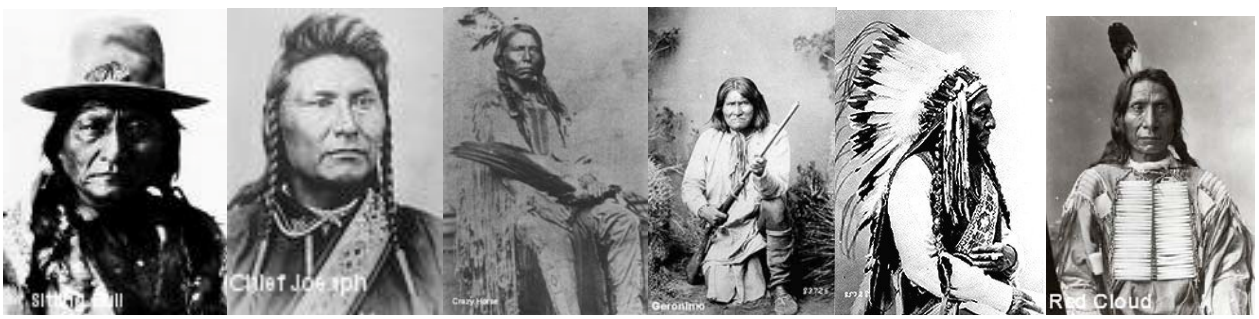
The method succeeded best when the teacher did not wear glasses. In fact, the effect upon the children of a teacher who wears glasses is so detrimental that no such person should be allowed to be a teacher, and since errors of refraction are curable, such a ruling would work no hardship on anyone. Not only do children imitate the visual habits of a teacher who wears glasses, but the nervous strain of which the defective sight is an expression produces in them a similar condition. In classes of the same grade, with the same lighting, the sight of children whose teachers did not wear glasses has always been found to be better than the sight of children whose teachers did wear them. In one case I tested the sight of children whose teacher wore glasses and found it very imperfect. The teacher went out of the room on an errand, and after she had gone I tested them again. The results were very much better. When the teacher returned she asked about the sight of a particular boy, a very nervous child, and as I was proceeding to test him she stood before him and said, "Now, when the doctor tells you to read the card, do it." The boy couldn't see anything. Then she went behind him, and the effect was the same as if she had left the room. The boy read the whole card.

Still better results would be obtained if we could reorganize the educational system on a rational basis. Then we might expect a general return of that **primitive acuity of vision** which we marvel at so greatly when we read about it in the memoirs of travelers. But even under existing conditions it has been proven beyond the shadow of a doubt that errors of refraction are no necessary part of the price we must pay for education.

There are at least ten million children in the schools of the United States who have defective sight. This condition prevents them from taking full advantage of the educational opportunities which the State provides. It undermines their health and wastes the taxpayers' money. If allowed to continue, it will be an expense and a handicap to them throughout their lives. In many cases it will be a source of continual misery and suffering. And yet practically all of these cases could be cured and the development of new ones prevented by the daily reading of the Snellen test card.

Why should our children be compelled to suffer and wear glasses for want of this simple measure of relief? It costs practically nothing. In fact, it would not be necessary, in some cases, as in the schools of New York City, even to purchase the Snellen test cards, as they are already being used to test the eyes of the children. Not only does it place practically no additional burden upon the teachers, but, by improving the eyesight, health, disposition and mentality of their pupils, it greatly lightens their labors. No one would venture to suggest, further, that it could possibly do any harm. Why, then, should there be any delay about introducing it into the schools? If there is still thought to be need for further investigation and discussion, we can investigate and discuss just as well after the children get the cards as before, and by adopting that course we will not run the risk of needlessly condemning another generation to that curse which heretofore has always dogged the footsteps of civilization, namely, defective eyesight. I appeal to all who read these lines to use whatever influence they possess toward the attainment of this end.

Native American Indians had perfect eyesight and health before they were forced into the white mans culture, schools, religion diet.
Modern Indians are now reclaiming their heritage. An American Indian would be a great U.S. President.
This book is free for Native American Indians to read, distribute, sell.



THE STORY OF EMILY

**Children cured of defective eyesight by Dr. Bates, teach the Bates Method,
cure defective sight; blur, astigmatism, cataract, crossed eyes in other children.**

The efficacy of the method of treating imperfect sight without glasses has been demonstrated in thousands of cases, not only in my own practice but in that of many persons of whom I may not even have heard; for almost all patients when they are cured proceed to cure others. At a social gathering one evening a lady told me that she had met a number of my patients; but when she mentioned their names, I found that I did not remember any of them, and said so.

"That is because you cured them by proxy," she said. "You didn't directly cure Mrs. Jones or Mrs. Brown, but you cured Mrs. Smith and Mrs. Smith cured the other ladies. You didn't treat Mr. and Mrs. Simpkins or Mr. Simpkins' mother and brother, but you may remember that you cured Mr. Simpkins' boy of a squint, and he cured the rest of the family."

In schools where the Snellen test card was used to prevent and cure imperfect sight, the children, after they were cured themselves, often took to the practice of ophthalmology with the greatest enthusiasm and success, curing their fellow students, their parents and their friends. They made a kind of game of the treatment, and the progress of each school case was watched with the most intense interest by all the children. On a bright day, when the patients saw well, there was great rejoicing, and on a dark day there was corresponding depression. One girl cured twenty-six children in six months; another cured twelve in three months; a third developed quite a varied ophthalmological practice and did things of which older and more

experienced practitioners might well have been proud. Going to the school which she attended one day, I asked this girl about her sight, which had been very imperfect. She replied that it was now very good, and that her headaches were quite gone. I tested her sight and found it normal. Then another child whose sight had also been very poor spoke up,

"I can see all right too," she said. "Emily"—indicating girl No. I—"cured me."

"Indeed"" I replied. "How did she do that?"

The second girl explained that Emily had had her read the card, which she could not see at all from the back of the room, at a distance of a few feet. The next day she had moved it a little further way, and so on, until the patient was able to read it from the back of the room, just as the other children did. Emily now told her to cover the right eye and read the card with her left, and both girls were considerably upset to find that the **uncovered eye was apparently blind.** The school doctor was consulted and said that nothing could be done. The eye had been blind from birth and no treatment would do any good.

Nothing daunted, however, Emily undertook the treatment. She told the patient to cover her good eye and go up close to the card, and at a distance of a foot or less it was found that she could read even the small letters. The little practitioner then proceeded confidently as with the other eye, and after many months of practice the patient became the happy possessor of normal vision in both eyes. The case had, in fact, been simply one of high myopia, and the school doctor, not being a specialist, had not detected the difference between this condition and blindness.

In the same classroom, there had been a little girl with congenital **cataract**, but on the occasion of my visit the defect had disappeared. This, too, it appeared, was Emily's doing. The school doctor had said that there was no help for this eye except through operation, and as the sight of the other eye was pretty good, he fortunately did not think it necessary to urge such a course. Emily accordingly took the matter in hand. She had the patient stand close to the card, and at that distance it was found that she could not see even the big C. Emily now held the card between the patient and the light and moved it back and forth. At a distance of three or four feet this movement could be observed indistinctly by the patient. The card was then moved farther away, until the patient became able to see it move at ten feet and to see some of the larger letters indistinctly at a less distance. Finally, after six months, she became able to read the card with the bad eye as well as with the good one. After testing her sight and finding it normal in both eyes, I said to Emily

"You are a splendid doctor. You beat them all. Have you done anything else?"

The child blushed, and turning to another of her classmates, said:

"Mamie, come here."

Mamie stepped forward and I looked at her eyes. There appeared to be nothing wrong with them.

"I cured her," said Emily.

"What of?" I inquired.

"Cross eyes," replied Emily.

"How," I asked, with growing astonishment.

Emily described a procedure very similar to that adopted in the other cases. Finding that the sight of the **crossed eye** was very poor, so much so, indeed, that poor Mamie could see practically nothing with it, the obvious course of action seemed to her to be the restoration of its sight; and, never having read any medical literature she did not know that this was impossible. So she went to it. She had Mamie cover her good eye and practice with the bad one at home and at school, until at last the sight became normal and the eye straight. The school doctor had wanted to have the eye operated upon, I was told, but fortunately Mamie was "scared" and would not consent. And here she was with two perfectly good, straight eyes.

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $3, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

"Anything else?" I inquired, when Mamie's case had been disposed of. Emily blushed again, and said:

"Here's Rose. Her eyes used to hurt her all the time, and she couldn't see anything on the blackboard. Her headaches used to be so bad that she had to stay away from school every once in a while. The doctor gave her glasses; but they didn't help her, and she wouldn't wear them. When you told us the card would help our eyes I got busy with her. I had her read the card close up, and then I moved it farther away, and now she can see all right, and her head doesn't ache any more. She comes to school every day, and we all thank you very much."

This was a case of compound hypermetropic astigmatism. Such stories might be multiplied indefinitely. Emily's astonishing record cannot, it is true, be duplicated, but lesser cures by cured patients have been very numerous and serve to show that the benefits of the method of preventing and curing defects of vision in the schools which is presented in this number of BETTER EYESIGHT would be far-reaching. Not only errors of refraction would be cured, but many more serious defects; and not only the children would be helped, but their families and friends also.

August, 1919 -

1 - For reports of all the papers quoted, see Jour. Am. Med. Assoc. June 21, 1919.
2 - Bates: The Imperfect Sight of the Normal Eye, N. Y. Med. Jour., Sept. 8, 1917.
3 - The Hygiene of the Eye in Schools, English translation, edited by Turnbull, p. 127.
4 - System of Diseases of the Eye, 1897. Vol. II, p. 361.
5 - Brit. Med. Jour., June 18, 1898.
6 - Die Entstehung der sphärischen Refraktionen des menschlichen Auges, Berlin, 1913, p. 540.
7 - Archiv f. Augenhlk., Vol. LXXIX, 1915, translated in Archives of Ophthalmology, Vol. XLV, No. 6, November 1916.
8 - Bates: The Cause of Myopia, N. Y. Med. Jour., March 16, 1912.
9 - Bates: The Prevention of Myopia in School Children, N. Y. Med. Jour., July 29, 1911.
10 - Bates: Myopia Prevention by Teachers, N. Y. Med. Jour., Aug. 30, 1913.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

September, 1919

THE FLASHING CURE

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and **look at the first word or letter of a sentence for a fraction of a second**. If you have been able to relax, partially or completely, you will have a **flash of improved or clear vision**, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you. When looking at a letter: shift on it part to part. Blink. The letter remains clear. Shift dot to dot (part to part) on the E.

Shift left and right, top and bottom and in any direction on the E.

VISION AND EDUCATION

Poor sight is admitted to be one of the most fruitful causes of retardation in the schools. It is estimated1 that it may reasonably be held responsible for a quarter of the habitually "left-backs," and it is commonly assumed that all this might be prevented by suitable glasses.

There is much more involved in defective vision, however, than mere inability to see the blackboard, or to use the eyes without pain or discomfort. Defective vision is the result of an abnormal condition of the mind, and when the mind is in an abnormal condition it is obvious that none of the processes of education can be conducted with advantage. By putting glasses upon a child we may, in some cases, neutralize the effect of this condition upon the eyes and by making the patient more comfortable may improve his mental faculties to some extent, but we do not alter fundamentally the condition of the mind and by confirming it in a bad habit we may make it worse.

It can easily be demonstrated that among the faculties of the mind which are impaired when the vision is impaired is the memory; and as a large part of the educational process consists of storing the mind with facts, and all the other mental processes depend upon one's knowledge of facts, it is easy to see how little is accomplished by merely putting glasses on a child that has "trouble with its eyes." The **extraordinary memory of primitive people** has been attributed to the fact that owing to the absence of any convenient means of making written records they had to depend upon their memories, which were strengthened accordingly; but in view of the known facts about the relation of memory to eyesight it is more reasonable to suppose that the retentive memory of primitive man was due to the same cause as his **keen vision**, namely, **a mind at rest**.

The primitive memory as well as primitive keenness of vision have been found among civilized people, and if the necessary tests had been made it would doubtless have been found that they always occur together, as they did in a case which recently came under my observation. The subject was a child of ten with such marvelous eyesight that **she could see the moons of Jupiter with the naked eye**, a fact which was demonstrated by her drawing a diagram of these satellites which exactly corresponded to the diagrams made by persons who had used a telescope. **Her memory was equally remarkable**. She could recite the whole content of a book after reading it, as Lord Macauley is said to have done, and she learned more Latin in a few days without a teacher than her sister who had six diopters of myopia had been able to do in several years. She remembered five years afterward what she ate at a restaurant, she recalled the name of the waiter, the number of the building and the street in which it stood. She also remembered what she wore on this occasion and what every one else in the party wore. The same was true of every other event which had awakened her interest in any way, and it was a favorite amusement in her family to ask her what the menu had been and what people had worn on particular occasions.

When the sight of two persons is different it has been found that their memories differ in exactly the same degree. Two sisters, one of whom had only ordinary good vision, indicated by the formula 20/20, while the other had 20/10, found that the time it took them to learn eight verses of a poem varied in almost exactly the same ratio as their sight. The one whose vision was 20/10 learned eight verses of the poem in fifteen minutes, while the one whose vision was only 20/20 required thirty-one minutes to do the same thing. After palming the one with ordinary vision learned eight more verses in twenty-one minutes, while the one with 20/10 was only able to reduce her time by two minutes, a variation clearly within the limits of error. In other words, the mind of the latter being already in a normal or nearly normal condition, she could not improve it appreciably by palming, while the former whose mind was under a strain was able to gain relaxation, and hence improve her memory, by this means.

When the two eyes of the same person are different a corresponding difference in the memory has been noted according to whether both eyes were open, or the better eye closed. A patient with normal vision in the right eye and half-normal vision in the left when looking at the Snellen test card with both eyes open could remember a period for twenty seconds continuously, but could remember it only ten seconds when the better eye was closed. A patient with half-normal vision in the right eye and one-quarter normal in the left could remember a period for twelve seconds with both eyes open and only six seconds with better eye closed. A third patient with normal sight in the right eye and vision of one-tenth in the left could remember a period twelve seconds with both eyes open and only two seconds when the better eye was closed. In other words if the right eye is better than the left the memory is better when the right eye is open than when only the left eye is open.

Under the present educational system there is a constant effort to compel the children to remember. These efforts always fail. They spoil both the memory and the sight. The memory cannot be forced any more than the vision can be forced. **We remember without effort,**

just as we see without effort, and the harder we try to remember or see the less we are able to do so.

The sort of things we remember are the things that interest us, and the reason children have difficulty in learning their lessons is because they are bored by them. For the same reason, among others, their eyesight becomes impaired, boredom being a condition of mental strain in which it is impossible for the eye to function normally.

Some of the various kinds of compulsion now employed in the educational process may have the effect of awakening interest. Betty Smith's interest in winning a prize, for instance, or in merely getting ahead of Johnny Jones, may have the effect of rousing her interest in lessons that have hitherto bored her, and this interest may develop into a genuine interest in the acquisition of knowledge; but this cannot be said of the various fear incentives still so largely employed by teachers. These, on the contrary, have the effect, usually, of completely paralyzing minds already benumbed by lack of interest, and the effect upon the vision is equally disastrous.

The fundamental reason, both for poor memory and poor eyesight in school children, in short, is our irrational and unnatural educational system. **Montessori has taught us that it is only when children are interested that they can learn. It is equally true that it is only when they are interested that they can see.** This fact was strikingly illustrated in the case of one of the two pairs of sisters mentioned above. Phebe, of the keen eyes, who could recite whole books if she happened to be interested in them, disliked mathematics and anatomy extremely, and not only could not learn them but became myopic when they were presented to her mind. She could read letters a quarter of an inch high at twenty feet in a poor light, but when asked to read figures one to two inches high in a good light at ten feet she miscalled half of them. When asked to tell how much 2 and 3 made, she said "4," before finally deciding on "5"; and all the time she was occupied with this disagreeable subject the retinoscope showed that she was myopic. When I asked her to look into my eye with the ophthalmoscope she could see nothing, although a much lower degree of visual acuity is required to note the details of the interior of the eye than to see the moons of Jupiter.

Short-sighted Isabel, on the contrary, had a passion for mathematics and anatomy, and excelled in those subjects. She learned to use the ophthalmoscope as easily as Phebe had learned Latin. Almost immediately she saw the optic nerve, and noted that the center was whiter than the periphery. She saw the light-colored lines, the arteries; and the darker ones, the veins; and she saw the light streaks on the blood-vessels. Some specialists never become able to do this, and no one could do it without normal vision. Isabel's vision, therefore, must have been temporarily normal when she did it. Her vision for figures, although not normal, was better than for letters.

In both these cases the ability to learn and the ability to see went hand in hand with interest. Phebe could read a photographic reduction of the Bible and recite what she had read verbatim, she could see the moons of Jupiter and draw a diagram of them afterwards, because she was interested in these things; but she could not see the interior of the eye, nor see figures even half as well as she saw letters, because these things bored her. When, however, it was suggested to her that it would be a good joke to surprise her teachers, who were always reproaching her for her backwardness in mathematics, by taking a high mark in a coming examination, her interest in the subject awakened and she contrived to learn enough to get seventy-eight per cent. In Isabel's case letters were antagonistic. She was not interested in most of the subjects with which they dealt and, therefore, she was backward in those subjects and had become habitually myopic. But when asked to look at objects which aroused an intense interest her vision became normal.

When one is not interested, in short, one's mind is not under control, and without mental control one can neither learn nor see. Not only the memory but all other mental faculties are improved when the eyesight becomes normal. It is a common experience with patients cured of defective sight to find that their ability to do their work has improved.

The teacher whose letter was quoted in the first issue of BETTER EYESIGHT testified that after gaining perfect eyesight she "knew better how to get at the minds of the pupils, was "more direct, more definite, less diffused, less vague," possessed, in fact, "central fixation of the mind." In another letter she said, "The better my eyesight becomes the greater is my ambition. On the days when my sight is best I have the greatest anxiety to do things."

Another teacher reports that one of her pupils used to sit doing nothing all day long and apparently was not interested in anything. After the test card was introduced into the classroom and his sight improved, he became anxious to learn, and speedily developed into one of the best students in the class. In other words his eyes and his mind became normal together.

A bookkeeper nearly **seventy years of age** who had **worn glasses for forty years** found after he had **gained perfect sight without glasses** that he could work more rapidly and accurately and with less fatigue than ever in his life before. During busy seasons, or when short of help, he has worked for some weeks at a time from 7 a. m, until 11 p. m., and he reports that he felt less tired at night after he was through than he did in the morning when he started. Previously, although he had done more work than any other man in the office, it always tired him very much. He also noticed an improvement in his temper. Having been so long in the office and knowing so much more about the business than his fellow employees, he was frequently appealed to for advice. These interruptions, before his sight became normal, were very annoying to him and often caused him to lose his temper. Afterward, however, they caused him no irritation whatever. In the case of another patient whose story is given elsewhere symptoms of insanity were relieved when the vision became normal.

From all these facts it will be seen that the problems of vision are far more intimately associated with the problems of education than we had supposed, and that they can by no means be solved by putting concave, or convex, or astigmatic lenses before the eyes of the children.

THE DOCTOR'S STORY

One of the most striking cases of the relation of mind to vision that ever came to my attention was that of a physician whose mental troubles, at one time so serious that they suggested to him the idea that he might be going insane, were completely relieved when his sight became normal. He had been seen by many eye and nerve specialists before he came to me and consulted me at last, not because he had any faith in my methods, but because nothing else seemed to be left for him to do. He brought with him quite a collection of glasses prescribed by different men, no two of them being alike. He had worn glasses, he told me, for many months at a time without benefit and then he had left them off and had been apparently no worse. Outdoor life had also failed to help him. On the advice of some prominent neurologists he had even given up his practice for a couple of years to spend the time upon a ranch, but the vacation had done him no good.

I examined his eyes and found no organic defects and no error of refraction. Yet his vision with each eye was only three-fourths of the normal, and he suffered from **double vision and all sorts of unpleasant symptoms**. He used to see people standing on their heads, and little devils dancing on the tops of the high buildings. He also had other **illusions** too numerous to mention in a short paper. At night his sight was so bad that he had difficulty in finding his way about, and when walking along a country road he believed that he saw better when he turned his eyes far to one side and viewed the road with the side of the retina instead of with the center. At variable intervals, without warning and without loss of consciousness, **he had attacks of blindness**. These caused him great uneasiness, for he, was a

surgeon with a large and lucrative practice, and he feared that he might have an attack while operating.

His memory was very poor. He could not remember the color of the eyes of any member of his family, although he had seen them all daily for years. Neither could he recall the color of his house, the number of rooms on the different floors, or other details. The faces and names of patients and friends he recalled with difficulty, or not at all.

Central Fixation- Look directly at the dot on the left and see it clear. Look away from it and see it less clear in the peripheral field.

Remember and shift on a small black period.

His treatment proved to be very difficult, chiefly because he had an infinite number of erroneous ideas about physiological optics in general and his own case in particular and insisted that all these should be discussed; while these discussions were going on he received no benefit. Every day for hours at a time over a long period he talked and argued. Never have I met a person whose logic was so wonderful, so apparently unanswerable, and yet so utterly wrong.

His eccentric fixation was of such high degree that when he looked at a point forty-five degrees to one side of the big C on the Snellen test card, he saw the letter just as black as when he looked directly at it. The strain to do this was terrific, and produced much astigmatism; but the patient was unconscious of it, and could not be convinced that there was anything abnormal in the symptom. If he saw the letter at all, he argued, he must see it as black as it really was, because he was not color-blind. Finally he became able to look away from one of the smaller letters on the card and see it worse than when he looked directly at it. It took eight or nine months to accomplish this, but when it had been done the patient said that it seemed as if a great burden had been lifted from his mind. He experienced a wonderful feeling of rest and relaxation throughout his whole body.

When asked to remember black with his eyes closed and covered he said he could not do so, and he saw every color but the black which one ought normally to see when the optic nerve is not subject to the stimulus of light. He had, however, been an enthusiastic football player at college, and he found at last that he could remember a black football. I asked him to imagine that this football had been thrown into the sea and that it was being carried outward by the tide, becoming constantly smaller but no less black. This he was able to do, and the strain floated with the football, until, by the time the latter had been reduced to the size of a period in a newspaper, it was entirely gone. The relief continued as long as he remembered the black spot, but as he could not remember it all the time, I suggested another method of gaining permanent relief. This was to make his sight voluntarily worse, a plan against which he protested with considerable emphasis.

"Good heavens!" he said, "Is not my sight bad enough without making it worse."

After a week of argument, however, he consented to try the method, and the result was extremely satisfactory. After he had learned to see two or more lights where there was only one, by straining to see a point above the light while still trying to see the light as well as when looking directly at it, he became able to avoid the unconscious strain that had produced his double and multiple vision and was not troubled by these superfluous images any more. In a similar manner other illusions were prevented.

One of the last illusions to disappear was his belief that an effort was required to remember black. His logic on this point was overwhelming, but after many demonstrations he was convinced that no effort was required to let go, and when he realized this, both his vision and his mental condition immediately improved.

He finally became able to read 20/10 or more, and although more than fifty-five years of age, he also read diamond type at from six to twenty-four inches. His night blindness was relieved, his attacks of day blindness ceased, and he told me the color of the eyes of his wife and children. One day he said to me:

"Doctor, I thank you for what you have done for my sight; but no words can express the gratitude I feel for what you have done for my mind."

Some years later he called with his heart full of gratitude, because there had been no relapse.

LYING A CAUSE OF MYOPIA

I may claim to have discovered the fact that telling lies is bad for the eyes. Whatever bearing this circumstance may have upon the universality of defects of vision, it can easily be demonstrated that it is impossible to say what is not true, even with no intent to deceive, or even to imagine a falsehood, without producing an error of refraction.

If a patient can read all the small letters on the bottom line of the test card, and either deliberately or carelessly miscalls any of them, the retinoscope will indicate an error of refraction. In numerous cases patients have been asked to state their ages incorrectly, or to try to imagine that they were a year older, or a year younger, than they actually were, and in every case when they did this the retinoscope indicated an error of refraction. A patient twenty-five years old had no error of refraction when he looked at a blank wall without trying to see; but if he said he was twenty-six, or if someone else said he was twenty-six, or if he tried to imagine that he was twenty-six, he became myopic. The same thing happened when he stated or tried to imagine that he was twenty-four. When he stated or remembered the truth his vision was normal, but when he stated or imagined an error he had an error of refraction.

Two little girl patients arrived one after the other one day, and the first accused the second of having stopped at Huyler's for an ice-cream soda, which she had been instructed not to do, being somewhat too much addicted to sweets. The second denied the charge, and the first, who had used the retinoscope and knew what it did to people who told lies, said:

"Do take the retinoscope and find out."

"I followed the suggestion, and having thrown the light into the second child's eyes, I asked:

"Did you go to Huyler's?"

"Yes," was the response, and the retinoscope indicated no error of refraction.

"Did you have an ice-cream soda?"

"No," Said the child; but the tell-tale shadow moved in a direction opposite to that of the mirror, showing that she had become myopic and was not telling the truth.

The child blushed when I told her this and acknowledged that the retinoscope was right, for she had heard of the ways of the uncanny instrument before and did not know what else it might do to her if she said anything more that was not true.

The fact is that it requires an effort to state what is not true, and this effort always results in a deviation from the normal in the refraction of the eye. So sensitive is the test that if the subject, whether his vision is ordinarily normal, or not, pronounces the initials of his name correctly while looking at a blank surface without trying to see, there will be no error of refraction; but if he miscalls one initial, even without any consciousness of effort, and with full knowledge that he is deceiving no one, myopia will be produced.

CURED IN FIFTEEN MINUTES

Patients often ask how long it takes to be cured. The answer is that it takes only as long as it takes to relax. If this can be done in five minutes, the patient is cured in five minutes, no matter how great the degree of his error of refraction, or how long its duration. All persons with errors of refraction are able to relax in a few seconds under certain conditions, but to gain permanent relaxation usually requires considerable time. Some persons, however, are able to get it very quickly. These quick cures are very rare, except in the case of children under twelve; but they do occur, and I believe the time is coming when it will be possible to cure everyone quickly. It is only a question of accumulating more facts and presenting them in such a way that the patient can grasp them quickly.

A very remarkable case of a quick cure was that of a man of fifty-five who had worn glasses for thirty years for distant vision and ten years for reading, and whose distant vision at the time he consulted me was 20/200.

When he looked at the Snellen test card the letters appeared grey to him instead of black. He was told that they were black, and the fact was demonstrated by bringing the card close to him. His attention was also called to the fact that the small letters were just as black as the large ones. He was then directed to close and cover his eyes with the palms of his hands, shutting out all the light. When he did this he saw a perfect black, indicating that he had secured perfect relaxation and that the optic nerve and visual centers of the brain were not disturbed. While his eyes were still closed he was asked:

"Do you think that you can remember with your eyes open the perfect black that you now see?"

"Yes," he answered, "I know I can,"

When he opened his eyes, however, his memory of the black was imperfect, and though able to read the large letters, he could not read the small ones. A second time he was told to close and cover his eyes, and again he saw a perfect black. When he opened them he was able to retain complete control of his memory, and so was able to read the whole card. This was ten minutes after he entered the office.

Diamond type was now given him to read, but the letters looked grey to him, and he could not distinguish them. Neither could he remember black when he was looking at them, because in order to see them grey he had to strain, and in order to remember black he would have had to relax, and he could not do both at the same time. He was told that the letters were perfectly black, and when he looked away from them he was able to remember them black. When he looked back he still remembered them black, and was able to read them with normal vision at twelve inches. This took five minutes, making the whole time in the office fifteen minutes. The cure was permanent, the patient not only retaining what he had gained, but continuing to improve his sight, by daily reading of fine print and the Snellen test card, till it became almost **telescopic.**

September, 1919

1 -School Health News, published by the Department of Health of New York City, February, 1919.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

October, 1919

THE SWINGING CURE

If you see a letter perfectly, you may note that it appears to pulsate, or move slightly in various directions. If your sight is imperfect, the letter will appear to be stationary. The apparent movement is caused by the unconscious shifting of the eye. The lack of movement is due to the fact that the eye stares, or looks too long at one point. This is an invariable symptom of imperfect sight, and may often be relieved by the following method:

Close your eyes and cover them with the palms of the hands so as to exclude all the light, and shift mentally from one side of a black letter to the other. As you do this, the mental picture of the letter will appear to move back and forth in a direction contrary to the imagined movement of the eye. Just so long as you imagine that the letter is moving, or swinging, you will find that you are able to remember it, and the **shorter and more regular the swing, the blacker and more distinct the letter will appear**. If you are able to imagine the letter stationary, which may be difficult, you will find that your memory of it will be much less perfect.

Now open your eyes and look first at one side and then at the other of the real letter. If it appears to move in a direction opposite to the movement of the eye, you will find that your vision has improved. If you can imagine the swing of the letter as well with your eyes open as with your eyes closed, as **short**, as **regular** and as **continuous**, your vision will be normal.

SIMULTANEOUS RETINOSCOPY

Much of my information about the eye has been obtained by means of simultaneous retinoscopy.
The retinoscope is an instrument used to measure the refraction of the eye. It throws a beam of light into the pupil by reflection from a mirror, the light being either outside the instrument—above and behind the subject—or arranged within it by means of an electric battery. On looking through the sight-hole one sees a larger or smaller part of the pupil filled with light, which in normal human eyes is a reddish yellow, because this is the color of the retina, but which is green in a cat's eye, and might be white if the retina were diseased. Unless the eye is exactly focused at the point from which it is being observed one sees also a dark shadow at the edge of

the pupil, and it is the behavior of this shadow when the mirror is moved in various directions which reveals the refractive condition of the eye. If the instrument is used at a distance of six feet or more, and the shadow moves in a direction opposite to the movement of the mirror, the eye is myopic. If it moves in the same direction as the mirror, the eye is either hypermetropic or normal; but in the case of hypermetropia the movement is more pronounced than in that of normality, and an expert can usually tell the difference between the two states merely by the nature of the movement. In astigmatism the movement is different in different meridians. To determine the degree of the error, or to distinguish accurately between hypermetropia and normality, or between the different kinds of astigmatism, it is usually necessary to place a glass before the eye of the subject.

This exceedingly useful instrument has possibilities which have not been generally realized by the medical profession. It is commonly employed only under certain artificial conditions in a dark room; but it is possible to use it under all sorts of normal and abnormal conditions on the eyes both of human beings and of the lower animals. I have used it in the daytime and at night; when the subjects were comfortable and when they were excited; when they were trying to see and when they were not; when they were lying and when they were telling the truth. I have also used it, under varying conditions, on the eyes of many cats, dogs, rabbits, birds, turtles, reptiles and fish.

Most ophthalmologists depend upon the Snellen test card, supplemented by trial lenses, to determine whether the vision is normal or not, and to determine the degree of any abnormality that may exist. This is a slow, awkward and unreliable method of testing the vision, and absolutely unavailable for the study of the refraction of the lower animals and that of human beings under the conditions of life. The test card can be used only under certain favorable conditions, but the retinoscope can be used anywhere. It is a little easier to use it in a dim light than in a bright one, but it may be used in any light, even with the strong light of the sun shining directly into the eye. It is available whether the subject is at rest or in motion, asleep or awake, or even under ether or chloroform. It is also available when the observer is in motion. It has been used successfully when the eyelids were partly closed, shutting off part of the area of the pupil; when the pupil was dilated; also when it was contracted to a pin-point; when the subject was reading fine print at six inches, or at a greater distance; and when the eye was oscillating from side to side, from above downward, or in other directions.

It takes a considerable time, varying from minutes to hours, to measure the refraction with the Snellen test card and trial lenses. With the retinoscope, however, the refraction can be determined in a fraction of a second. With the Snellen test card and trial lenses it would be impossible to get any information about the refraction of a baseball player at the moment he swings for the ball, at the moment he strikes it, and at the moment after he strikes it. With the retinoscope, however, it is quite easy to determine whether his vision is normal, or whether he is myopic, hypermetropic, or astigmatic, when he does these things; and if any errors of refraction are noted, one can guess their degree pretty accurately by the rapidity of the movement of the shadow.

With the Snellen test card and trial lenses conclusions must be drawn from the patient's statements as to what he sees; but the patient often becomes so worried and confused during the examination that he does not know what he sees, or whether different glasses make his sight better, or worse; and, moreover, visual acuity is not reliable evidence of the state of the refraction. One patient with two diopters of myopia may see twice as much as another with the same error of refraction. The evidence of the test card is, in fact, entirely subjective; that of the retinoscope is entirely objective, depending in no way upon the statements of the patient.

By means of simultaneous retinoscopy it has been demonstrated that the refraction of the eye is never constant; that all persons with errors of refraction have, at frequent intervals during the day and night, moments of normal vision when their myopia, hypermetropia, or astigmatism, disappears completely; and that all persons, no matter how good their sight may ordinarily be, have moments of imperfect sight when they become myopic, hypermetropic, or astigmatic. It has also been demonstrated that when the eye makes an effort to see, an error of refraction is always produced, and that when it looks at objects without effort, all errors of refraction disappear, no matter how great their degree, or how long their duration. It has been further demonstrated that when the eye strains to see distant objects myopia is always produced in one or all meridians, and when it strains to see near objects hypermetropia is always produced in one or all meridians.

The examination of the eyes of persons while asleep, or under the influence of ether or chloroform, has shown that the eye is rarely at rest during sleep, or while the subject is unconscious from any cause. Persons whose sight was normal while awake were found to have myopia, hypermetropia and astigmatism when asleep, and if these errors were present when they were awake, they were increased during sleep. This explains why so many people are unable to see as well in the morning as at other times, and why people waken with headaches and pain in the eyes. Under ether or chloroform, errors of refraction are also produced or increased, and when people are sleepy they have invariably been found to have errors of refraction.

Under conditions of mental or physical discomfort, such as pain, cough, fever, discomfort from heat or cold, depression, anger, or anxiety, errors of refraction are always produced in the normal eye, or increased in the eye in which they already exist. In a dim light, in a fog, or in the rain, the retinoscope may indicate no error of refraction in eyes which ordinarily have normal sight; but a pilot on a ship on a rainy night usually has an error of refraction, because he is straining to see, and it is rare to find persons in positions of responsibility under unfavorable conditions with normal vision.

In order to obtain reliable results with the retinoscope it must be used at a distance of six feet or more from the subject. When used at a distance of three feet or less, as it commonly is, the subject becomes nervous and unconsciously strains, thus altering his refraction.

FLOATING SPECKS

A very common phenomenon of imperfect sight is the one known to medical science as *muscae volitantes*, or *flying flies*. These floating specks are usually dark, or black; but sometimes appear like white bubbles, and in rare cases may assume all the colors of the rainbow. They move somewhat rapidly, usually in curving lines, before the eyes, and always appear to be just beyond the point of fixation. If one tries to look at them directly, they seem to move a little farther away. Hence their name of *flying flies*.

The literature of the subject is full of speculations as to the origin of these appearances. Some have attributed them to the presence of floating specks—dead cells or the debris of cells—in the vitreous humor, the transparent substance that fills four-fifths of the eyeball behind the crystalline lens. Similar specks on the surface of the cornea have also been held responsible for them. It has even been surmised that they might be caused by the passage of tears over the cornea. They are so common in myopia that they have been supposed to be one of the symptoms of this condition, although they occur also with other errors of refraction, as well as in eyes otherwise normal. They have been attributed to disturbances of the circulation, the digestion and the kidneys, and because so many insane people have them, have been thought to be an evidence of incipient insanity. The patent-medicine business has

thrived upon them, and it would be difficult to estimate the amount of mental torture they have caused, as the following cases illustrate.

A clergyman who was much annoyed by the continual appearance of floating specks before his eyes was told by his eye specialist that they were a symptom of kidney disease, and that in many cases of kidney trouble, disease of the retina might be an early symptom. So at regular intervals he went to the specialist to have his eyes examined, and when at length the latter died, he looked around immediately for some one else to make the periodical examination. His family physician directed him to me. I was by no means so well known as his previous ophthalmological adviser, but it happened that I had taught the family physician how to use the ophthalmoscope after others had failed to do so. He thought, therefore, that I must know a lot about the use of the instrument, and what the clergyman particularly wanted was some one capable of making a thorough examination of the interior of his eyes, and detecting at once any signs of kidney disease that might make their appearance. So he came to me, and at least four times a year for ten years he continued to come.

Each time I made a very careful examination of his eyes, taking as much time over it as possible, so that he would believe that it was careful; and each time he went away happy because I could find nothing wrong. Once when I was out of town he got a cinder in his eye and went to another oculist to get it out. When I came back late at night I found him sitting on my doorstep, on the chance that I might return. His story was a pitiable one. The strange doctor had examined his eyes with the ophthalmoscope, and had suggested the possibility of glaucoma, describing the disease as a very treacherous one which might cause him to go suddenly blind and would be agonizingly painful. He emphasized what the patient had previously been told about the danger of kidney disease, suggested that the liver and heart might also be involved, and advised him to have all of these organs carefully examined. I made another examination of his eyes in general and their tension in particular; I had him feel his eyeballs and compare them with my own, so that he might see for himself that they were not becoming hard as a stone; and finally I succeeded in reassuring him. I have no doubt, however, that he went at once to his family physician for an examination of his internal organs.

A man returning from Europe was looking at some white clouds one day when floating specks appeared before his eyes. He consulted the ship's doctor, who told him that the symptom was very serious, and might be the forerunner of blindness. It might also indicate incipient insanity, as well as other nervous or organic diseases. He advised him to consult his family physician and an eye specialist as soon as he landed, which he did. This was twenty-five years ago, but I shall never forget the terrible state of nervousness and terror into which the patient had worked himself by the time he came to me. It was even worse than that of the clergyman, who was always ready to admit that his fears were unreasonable. I examined his eyes very carefully, and found them absolutely normal. The vision was perfect both for the near-point and the distance. The color perception, the fields and the tension were normal; and under a strong magnifying glass I could find no opacities in the vitreous. In short, there were absolutely no symptoms of any disease. I told the patient there was nothing wrong with his eyes, and I also showed him an advertisement of a quack medicine in a newspaper which gave a great deal of space to describing the dreadful things likely to follow the appearance of floating specks before the eyes, unless you began betimes (in good time, early) to take the medicine in question at one dollar a bottle. I pointed out that the advertisement, which was appearing in all the big newspapers of the city every day, and probably in other cities, must have cost a lot of money, and must, therefore, be bringing in a lot of money. Evidently there must be a great many people suffering from this symptom, and if it were as serious as was generally believed, there would be a great many more blind and insane people in the community than there were. The patient went away somewhat comforted, but at eleven o'clock—his first visit had been at nine—he was back again. He still saw the floating specks, and was still worried about them. I examined his eyes again as carefully as before, and again was able to assure him that there was nothing wrong with them. In the afternoon I was not in my office, but I was told that he was there at three and at five. At seven he came again, bringing with him his family physician, an old friend of mine. I said to the latter:

"Please make this patient stay at home. I have to charge him for his visits, because he is taking up so much of my time; but it is a shame to take his money when there is nothing wrong with him."

What my friend said to him I don't know, but he did not come back again.

I did not know as much about **muscae volitantes** then as I know now, or I might have saved both of these patients a great deal of uneasiness. I could tell them that their eyes were normal, but I did not know how to relieve them of the symptom, which is simply **an illusion resulting from mental strain**. The specks are associated to a considerable extent with markedly **imperfect eyesight**, because persons whose eyesight is imperfect always strain to see; but persons whose eyesight is ordinarily normal may see them at times, because no eye has normal sight all the time. Most people can see muscae volitantes when they look at the sun, or any uniformly bright surface, like a sheet of white paper upon which the sun is shining. This is because most people strain when they look at surfaces of this kind. The specks are never seen, in short, except when the eyes and mind are under a strain, and they always disappear when the strain is relieved. **If one can remember a small letter on the Snellen test card by central fixation, the specks will immediately disappear, or cease to move; but if one tries to remember two or more letters equally well at one time, they will reappear and move.**

Usually the strain that causes muscae volitantes is very easily relieved. See; April, 1925

Floating specks may be debris in the eyeball. A cleansing diet, improved circulation of blood, fluid to/in the eye can break down floaters and enable them to flow out of the eye. Eyestrain, mental strain, staring, poor diet, sugar, can cause floaters. Shifting, central fixation, relaxation can stop the appearance of floaters.

CORRESPONDENCE TREATMENT

Correspondence treatment is usually regarded as quackery, and it would be manifestly impossible to treat many diseases in this way. Pneumonia and typhoid, for instance, could not possibly be treated by correspondence, even if the physician had a sure cure for these conditions and the mails were not too slow for the purpose. In the case of most diseases, in fact, there are serious objections to correspondence treatment.

But myopia, hypermetropia and astigmatism are functional conditions, not organic, as the text-books teach, and as I believed myself until I learned better. Their treatment by correspondence, therefore, has not the drawbacks that exist in the case of most physical derangements. One cannot, it is true, fit glasses by correspondence as well as when the patient is in the office, but even this can be done, as the following case illustrates.

An old colored woman in the wilds of Honduras, far removed from any physician or optician, was unable to read her Bible, and her son, a waiter in New York, asked me if I could not do something for her. The suggestion gave me a distinct shock which I will remember as long as I live. I had never dreamed of the possibility of prescribing glasses for anyone I had not seen, and I had, besides, some very disquieting recollections of colored women whom I had tried to fit with glasses at my clinic. If I had so much difficulty in prescribing the proper glasses under favorable conditions, how could I be expected to fit a patient whom I could not even see? The waiter was deferentially persistent, however. He had more faith in my genius than I had, and as his mother was nearing the end of her life, he was very anxious to gratify her last wishes. So, like the unjust judge of the parable, I yielded at last to his importunity, and wrote a prescription for convex 3.00 D. S. The young man ordered the glasses and mailed them to his mother, and by return mail came a very grateful letter stating that they were perfectly satisfactory.

A little later the patient wrote that she couldn't see objects at the distance that were perfectly plain to other people, and asked if some glasses couldn't be sent that would make her see at the distance as well as she did at the near-point. This seemed a more difficult proposition than the first one; but again the son was persistent, and I myself could not get the old lady out of my mind. So again I decided to do what I could. The waiter had told me that his mother had read her Bible long after the age of forty. Therefore I knew she could not have much hypermetropia, and was probably slightly myopic. I knew also that she could not have much astigmatism, for in that case her sight would always have been noticeably imperfect. Accordingly I told her son to ask her to measure very accurately the distance between her eyes and the point at which she could read her Bible best with her glasses, and to send me the figures. In due time I received, not figures, but a piece of string about a quarter of an inch in diameter and exactly ten inches long. If the patient's vision had been normal for the distance, I knew that she would have been able to read her Bible best with her glasses at thirteen inches. The string showed that at ten inches she had a refraction of four diopters. Subtracting from this the three diopters of her reading glasses, I got one diopter of myopia. I accordingly wrote a prescription for concave 1.00 D. S., and the glasses were ordered and mailed to Honduras. The acknowledgment was even more grateful than in the case of the first pair. The patient said that for the first time in her life she was able to read signs and see other objects at a distance as well as other people did, and that the whole world looked entirely different to her.

Would anyone venture to say that it was unethical for me to try to help this patient? Would it have been better to leave her in her isolation without even the consolation of Bible reading? I do not think so. What I did for her required only an ordinary knowledge of physiological optics, and if I had failed, I could not have done her much harm.

In the case of the treatment of imperfect sight without glasses there can be even less objection to the correspondence method. It is true that in most cases progress is more rapid and the results more certain when the patient can be seen personally; but often this is impossible, and I see no reason why patients who can not have the benefit of personal treatment should be denied such aid as can be given them by correspondence. I have been treating patients in this way for years, and often with extraordinary success.

Some years ago an English gentleman wrote to me that his glasses were very unsatisfactory. They not only did not give him good sight, but they increased instead of lessening his discomfort. He asked if I could help him, and since relaxation always relieves discomfort and improves the vision, I did not believe that I was doing him an injury in telling him how to rest his eyes. He followed my directions with such good results that in a short time he obtained perfect sight for both the distance and the near-point without glasses, and was completely relieved of his pain. Five years later he wrote me that he had qualified as a sharpshooter in the army. Did I do wrong in treating him by correspondence? I do not think so.

After the United States entered the European war, an officer wrote to me from the deserts of Arizona that the use of his eyes at the near-point caused him great discomfort, which glasses did not relieve, and that the strain had produced granulation of the lids. As it was impossible for him to come to New York, I undertook to treat him by correspondence. He improved very rapidly. The inflammation of the lids was relieved almost immediately, and in about four months he wrote me that he had read one of my own reprints-by no means a short one-in a dim light, with no bad after effects; that the glare of the Arizona sun, with the Government thermometer registering 114, did not annoy him, and that he could read the ten line on the test card at fifteen feet almost perfectly, while even at twenty feet he was able to make out most of the letters.

A third case was that of a forester in the employ of the U. S. Government. He had myopic astigmatism, and suffered extreme discomfort, which was not relieved either by glasses or by long summers in the mountains, where he used his eyes but little for close work. He was unable to come to New York for treatment, and although I told him that correspondence treatment was somewhat uncertain, he said he was willing to risk it. It took three days for his letters to reach me and another three for my reply to reach him, and as letters were not always written promptly on either side, he often did not hear from me more than once in three weeks. Progress under these conditions was necessarily slow; but his discomfort was relieved very quickly, and in about ten months his sight had improved from 20/50 to 20/20.

In almost every case the treatment of cases coming from a distance is continued by correspondence after they return to their homes; and although the patients do not get on so well as when they are coming to the office, they usually continue to make progress till they are cured.

At the same time it is often very difficult to make patients understand what they should do when one has to communicate with them entirely by writing, and probably all would get on better if they could have some personal treatment. At the present time the number of doctors in different parts of the United States who understand the treatment of imperfect sight without glasses is altogether too few, and my efforts to interest them in the matter have not been very successful. I would consider it a privilege to treat medical men without a fee, and when cured they will be able to assist me in the treatment of patients in their various localities.

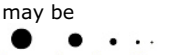
BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

November, 1919

THE MEMORY CURE

When the sight is perfect, the memory is also perfect, because the mind is perfectly relaxed. Therefore the sight may be improved by any method that improves the memory. The easiest thing to remember is a small black spot of no particular size and form; but when the sight is imperfect it will be found impossible to remember it with the eyes open and looking at letters, or other objects with definite outlines. It may, however, be remembered for a few seconds or longer, when the eyes are closed and covered, or when looking at a blank surface where there is nothing particular to see. By cultivating the memory under these favorable conditions, it gradually becomes possible to retain it under unfavorable ones, that is, when the eyes are open and the mind conscious of the impressions of sight. By alternately remembering the period with the eyes closed and covered and then looking at the Snellen test card, or other letters or objects; or by remembering it when looking away from the card where there is nothing particular to see, and then looking back; the patient becomes able, in a longer or shorter time, to retain the memory when looking at the card, and thus becomes able to read the letters with normal vision. Many children have been cured very quickly by this method. Adults who have worn glasses have greater difficulty. Even under favorable conditions, the period cannot be remembered for more than a few seconds, unless one shifts from one part of it to another. One can also shift from one period, or other small black object, to another.



Remember, imagine and shift on a small black dot with the eyes closed. With practice it can also be remembered with the eyes open and the vision becomes clear.

REASON AND AUTHORITY

This article describes how eye doctors fought against Dr. Bates, tried to hide the Bates Method from the public so they could continue selling eyeglasses, surgery, drugs.

Some one—perhaps it was Bacon—has said: "You cannot by reasoning correct a man of ill opinion which by reasoning, he never acquired." He might have gone a step farther and stated that neither by reasoning, nor by actual demonstration of the facts, can you convince some people that an opinion which they have accepted on authority is wrong. A man whose name I do not care to mention, a professor of ophthalmology, and a writer of books well known in this country and in Europe, saw me perform an experiment upon the eye of a rabbit which, according to others who had witnessed it, demonstrated beyond any possibility of error that the lens is not a factor in accommodation. At each step of the operation he testified to the facts; yet at the conclusion he preferred to discredit the evidence of his senses rather than accept the only conclusion that these facts admitted.

First he examined the eye of the animal to be experimented upon with the retinoscope and found it normal, and the fact was written down. Then the eye was stimulated with electricity, and he testified that it accommodated. This was also written down. I now divided the superior oblique muscle, and the eye was again stimulated with electricity. The doctor observed the eye with the retinoscope when this was being done and said, "You failed to produce accommodation." This fact, too, was written down. The doctor now used the electrode himself, but again failed to observe accommodation, and these facts were written down. I now sewed the cut ends of the muscle together, and once more stimulated the eye with electricity. The doctor said, "Now you have succeeded in producing accommodation," and this was written down. I now asked:

"Do you think that superior oblique had anything to do with producing accommodation?"

"Certainly not," he replied.

"Why?" I asked.

"Well," he said, "I have only the testimony of the retinoscope. I am getting on in years, and I don't feel that confidence in my ability to use the retinoscope that I once had. I would rather you wouldn't quote me on this."

While the operation was in progress, however, he gave no indication whatever of doubting his ability to use the retinoscope. He was very positive, in fact, that I had failed to produce accommodation after the cutting of the oblique muscle and his tone suggested that he considered the failure ignominious. It was only after he found himself in a logical trap, with no way out except by discrediting his own observations, that he appeared to have any doubts as to their value.

Patients whom I have cured of various errors of refraction have frequently returned to specialists who had prescribed glasses for them, and, by reading fine print and the Snellen test card with normal vision, have demonstrated the fact that they were cured, without in any way shaking the faith of these practitioners in the doctrine that such cures are impossible. A girl of sixteen who had progressive myopia of such high degree that she was not allowed to read, and was unable to go about on the streets without a guide, was assured by the specialist whom her family consulted that her condition was quite hopeless, and that it was likely to progress until it ended in blindness. She was cured in a very short time by means of the methods advocated in this magazine, becoming able to discard her glasses and resume all the ordinary activities of life. She then returned to the specialist who had condemned her to blindness to tell him the good news; but, while he was unable to deny the fact that her vision was normal without glasses, he said it was impossible that she would have been cured of myopia, because myopia was incurable. How he reconciled this statement with his former patient's condition he was unable to make clear to her.

A lady with compound myopic astigmatism[1] suffered from almost constant headaches which were very much worse when she took her glasses off. Every week, no matter what she did, she was so prostrated by eyestrain that she had to spend a few days in bed; and if she went to a theatre, or to a social function, she had to stay there longer. She was told to take off her glasses and go to the movies: to look first at the corner of the screen, then off to the dark, then back to the screen a little nearer to the center, and so forth. She did so, and soon became able to look directly at the pictures without discomfort. After that nothing troubled her. One day she called on her former ophthalmological adviser, in the company of a friend who wanted to have her glasses changed, and told him of her cure. The facts seemed to make no impression on him whatever. He only laughed and said, "I guess Dr. Bates is more popular with you than I am."

In some cases patients themselves, after they are cured, allow themselves to be convinced that it was impossible that such a thing could have happened, and go back to their glasses. A clergyman and writer, aged forty-seven, who had worn glasses for years for distance and reading, had what I should have considered the good fortune to be very quickly cured. By the aid of his imagination

he was able to relax in less than five minutes, and to stay relaxed. When he looked at fine print it appeared grey to him, and he could not read it. I asked him if he had ever seen printer's ink. He replied, of course, that he had. I then told him that the paragraph of printed matter which he held in his hand was printed in printer's ink, and that it was black and not grey. I asked him if he did not know and believe that it was black, or if he could not at least imagine that it was black. "Yes," he said, "I can do that"; and immediately he read the print. It took him only about a minute to do this, and he was not more than five minutes in the office. The cure was permanent, and he was very grateful-for a time. Then he began to talk to eye specialists whom he knew, and thereupon grew skeptical as to the value of what I had done for him. One day I met him at the home of a mutual friend, and in the presence of a number of other people he accused me of having hypnotized him, adding that to hypnotize a patient without his knowledge or consent was to do him a grievous wrong. Some of the listeners protested that whether I had hypnotized him or not, I had not only done him no harm, but had greatly benefited him, and he ought to forgive me. He was unable, however, to take this view of the matter. Later he called on a prominent eye specialist who told him that the presbyopia (old sight) and astigmatism from which he had suffered were incurable, and that if he persisted in going without his glasses he might do himself great harm. The fact that his sight was perfect for the distance and the near-point had no effect upon the specialist and the patient allowed himself to be frightened into disregarding it also. He went back to his glasses, and so far as I know has been wearing them ever since. The story obtained wide publicity, for the man had a large circle of friends and acquaintances; and if I had destroyed his sight I could scarcely have suffered more than I did for curing him.

Other Doctors try to hide Dr. Bates discoveries from the public. Doctors expel Dr. Bates from the Hospital he worked at after Dr. Bates cures patients without glasses, surgery, drugs and proves the facts of Natural Eyesight Improvement.

Fifteen or twenty years ago the specialist mentioned in the foregoing story read a paper on cataract at a meeting of the ophthalmological section of the American Medical Association in Atlantic City, and asserted that anyone who said that cataract could be cured without the knife was a quack. At that time I was assistant surgeon at the New York Eye and Ear Infirmary, and it happened that I had been collecting statistics of the spontaneous cure of cataract at the request of the executive surgeon of this institution, Dr. Henry G. Noyes, Professor of Ophthalmology at the Bellevue Hospital Medical School. As a result of my inquiry I had secured records of a large number of cases which had recovered, not only without the knife, but without any treatment at all. I also had records of cases which I had sent to Dr. James E. Kelly of New York and which he had cured, largely by hygienic methods. Dr. Kelly is not a quack, and at that time was Professor of Anatomy in the New York Post Graduate Medical School and Hospital and attending surgeon to a large city hospital. In the five minutes allotted to those who wished to discuss the paper, I was able to tell the audience enough about these cases to make them want to hear more. My time was, therefore, extended, first to half an hour and then to an hour. Later both Dr. Kelly and myself received many letters from men in different parts of the country who had tried his treatment with success. The man who wrote the paper had blundered, but he did not lose any prestige because of my attack with facts upon his theories. He is still a prominent and honored ophthalmologist and in his latest book he gives no hint of having ever heard of any successful method of treating cataract other than by operation. He was not convinced by my record of spontaneous cures, nor by Dr. Kelly's record of cures by treatment; and while a few men were sufficiently impressed to try the treatment recommended, and while they obtained satisfactory results, the facts made no impression upon the profession as a whole, and did not modify the teaching of the schools. That spontaneous cures of cataract do sometimes occur cannot be denied; but they are supposed to be very rare, and any one who suggests that the condition can be cured by treatment still exposes himself to the suspicion of being a quack.

Between 1886 and 1891 I was a lecturer at the Post Graduate Hospital and Medical School. The head of the institution was Dr. D. B. St. John Roosa. He was the author of many books, and was honored and respected by the whole medical profession. At the school they had got the habit of putting glasses on the nearsighted doctors, and I had got the habit of curing them without glasses. It was naturally annoying to a man who had put glasses on a student to have him appear at a lecture without them and say that Dr. Bates had cured him. Dr. Roosa found it particularly annoying, and the trouble reached a climax one evening at the annual banquet of the faculty when, in the presence of one hundred and fifty doctors, he suddenly poured out the vials of his wrath upon my head. He said that I was injuring the reputation of the Post Graduate by claiming to cure myopia. Every one knew that Donders said it was incurable, and I had no right to claim that I knew more than Donders. I reminded him that some of the men I had cured had been fitted with glasses by himself. He replied that if he had said they had myopia he had made a mistake. I suggested further investigation. "Fit some more doctors with glasses for myopia," I said, "and I will cure them. It is easy for you to examine them afterwards and see if the cure is genuine." This method did not appeal to him, however. He repeated that it was impossible to cure myopia, and to prove that it was impossible **he expelled me from the Post Graduate, even the privilege of resignation being denied to me.** The fact is that, except in rare cases, man is not a reasoning being. He is dominated by authority, and when the facts are not in accord with the view imposed by authority, so much the worse for the facts. They may and indeed must win in the long run; but in the meantime the world gropes needlessly in darkness and endures much suffering that might have been avoided.

THE EFFECT OF LIGHT UPON THE EYES

Although the eyes were made to react to the light, a very general fear of the effect of this element upon the organs of vision is entertained both by the medical profession and by the laity. Extraordinary precautions are taken in our homes, offices and schools to temper the light, whether natural or artificial, and to insure that it shall not shine directly into the eyes; smoked and amber glasses, eye-shades, broad-brimmed hats and parasols are commonly used to protect the organs of vision from what is considered an excess of light; and when actual disease is present, it is no uncommon thing for patients to be kept for weeks, months and years in dark rooms, or with bandages over their eyes.

The evidence on which this universal fear of the light has been based is of the slightest. In the voluminous literature of the subject one finds such a lack of information that, in 1910, Dr. J. Herbert Parsons of the Royal Ophthalmic Hospital of London, addressing a meeting of the Ophthalmological Section of the American Medical Association, felt justified in saying that ophthalmologists, if they were honest with themselves, "must confess to a lamentable ignorance of the conditions which render bright light injurious to the eyes."[2] Since then, Verhoeff and Bell have reported[3] an exhaustive series of experiments carried on at the Pathological Laboratory of the Massachusetts Charitable Eye and Ear Infirmary, which indicate that the danger of injury to the eye from light radiation as such has been "very greatly exaggerated." That brilliant sources of light sometimes produce unpleasant temporary symptoms cannot, of course, be denied; but as regards definite pathological effects, or permanent impairment of vision from exposure to light alone, Drs. Verhoeff and Bell were unable to find, either clinically or experimentally, anything of a positive nature.

The results of these experiments are in complete accord with my own observations as to the effect of strong light upon the eyes.

In my experience such light has never been permanently injurious. Persons with normal sight have been able to look at the sun for an indefinite length of time, even an hour or longer, without any discomfort or loss of vision. Immediately afterward they were able to read the Snellen test card with improved vision, their sight having become better than what is ordinarily considered normal. Some persons with normal sight do suffer discomfort and loss of vision when they look at the sun; but in such cases the retinoscope always indicates an error of refraction, showing that this condition is due, not to the light, but to strain. In exceptional cases persons with defective sight have been able to look at the sun, or have thought that they have looked at it, without discomfort and without loss of vision; but, as a rule, the strain in such eyes is enormously increased and the vision decidedly lowered by sun-gazing, as manifested by inability to read the Snellen test card. **Blind areas (scotomata)** may develop in various parts of the field—two or three or more. The sun, instead of appearing perfectly white, may appear to be slate-colored, yellow, red, blue, or even totally black. After looking away from the sun, patches of color of various kinds and sizes may be seen, continuing a variable length of time, from a few seconds to a few minutes, hours, or even months. In fact, one patient was troubled in this way for a year or more after looking at the sun for a few seconds. Even total blindness lasting a few hours has been produced. Organic changes may also be produced. Inflammation, redness of the conjunctiva, cloudiness of the lens and of the aqueous and viterous humours, congestion and cloudiness of the retina, optic nerve and choroid, have all resulted from **sun-gazing**. These effects, however, are **always temporary**. The scotomata, the strange colors, even the total blindness, as explained in the preceding chapter, are only mental illusions. No matter how much the sight may have been impaired by **sun-gazing**, or how long the impairment may have lasted, a return to normal has always occurred; while prompt relief of all the symptoms mentioned has always followed the relief of eyestrain, showing that the conditions are the result, not of the light, but of the strain. **Some persons who have believed their eyes to have been permanently injured by the sun have been promptly cured by central fixation, indicating that their blindness had been simply functional.**

By persistence in looking at the sun, a person with normal sight soon becomes able to do so without any loss of vision; but persons with imperfect sight usually find it impossible to accustom themselves to such a strong light until their vision has been improved by other means. **One has to be very careful in recommending sun-gazing to persons with imperfect sight; because, although no permanent harm can result from it, great temporary discomfort may be produced, with no permanent benefit. In some rare cases, however, complete cures have been effected by this means alone.**

Diet must also be healthy. No prescription, non-prescription drugs, including sinus sprays, cough/cold medicines...

In one of these cases the sensitiveness of the patient, even to ordinary daylight, was so great that an eminent specialist had felt justified in putting a black bandage over one eye and covering the other with a smoked glass so dark as to be nearly opaque. She was kept in this condition of almost total blindness for two years without any improvement. Other treatment extending over some months also failed to produce satisfactory results. She was then advised to look directly at the sun. The immediate result was total blindness, which lasted several hours; but next day the vision was not only restored to its former condition, but was improved. The sun-gazing was repeated, and each time the blindness lasted for a shorter period. At the end of a week the patient was able to look directly at the sun without discomfort, and her vision, which had been 20/200 without glasses and 20/70 with them, had improved to 20/10, twice the accepted standard for normal vision.

Like the sun, a strong electric light may also lower the vision temporarily, but never does any permanent harm. In those exceptional cases in which the patient can become accustomed to the light, it is beneficial. After looking at a strong electric light some patients have been able to read the Snellen test card better.

It is not light but darkness that is dangerous to the eye. Prolonged exclusion from the light always lowers the vision, and may produce serious inflammatory conditions. Among young children living in tenements this is a somewhat frequent cause of ulcers upon the cornea, which ultimately destroy the sight. The children, finding their eyes sensitive to light, bury them in the pillows and thus shut out the light entirely. **The universal fear of reading or doing fine work in a dim light is, however, unfounded. So long as the light is sufficient so that one can see without discomfort, this practice is not only harmless, but may be beneficial.**

Sudden contrasts of light are supposed to be particularly harmful to the eye. The theory on which this idea is based is summed up as follows by Fletcher B. Dresslar, specialist in school-hygiene and sanitation of the United States Bureau of Education:

"The muscles of the iris are automatic in their movements, but rather slow. Sudden strong light and weak illumination are painful and likewise harmful to the retina. For example, if the eye adjusted to a dim light is suddenly turned toward a brilliantly lighted object, the retina will receive too much light, and will be shocked before the muscles controlling the iris can react to shut out the superabundance of light. If contrasts are not strong, but are frequently made, that is, if the eye is called upon to function where frequent adjustments in this way are necessary, the muscles controlling the iris become fatigued, respond more slowly and less perfectly. As a result, eyestrain in the ciliary muscles is produced and the retina is over stimulated. This is one cause of headaches and tired eyes."[4]

There is no evidence whatever to support these statements. Sudden fluctuations of light undoubtedly cause discomfort to many persons, but far from being injurious, I have found them, in all cases observed, to be actually beneficial. The pupil of the normal eye, when it has normal sight, does not change appreciably under the influence of changes of illumination; and persons with normal vision are not inconvenienced by such changes. I have seen a patient look directly at the sun after coming from an imperfectly lighted room, and then, returning to the room, immediately pick up a newspaper and read it. When the eye has imperfect sight, the pupil usually contracts in the light and expands in the dark, but it has been observed to contract to the size of a pinhole in the dark. Whether the contraction takes place under the influence of light or of darkness, the cause is the same, namely, strain. Persons with imperfect sight suffer great inconvenience, resulting in lowered vision, from changes in the intensity of the light; but the lowered vision is always temporary, and if the eye is persistently exposed to these conditions, the sight is benefited. Such practices as reading alternately in a bright and a dim light, or going from a dark room to a well-lighted one, and vice versa, are to be recommended. Even such rapid and violent fluctuations of light as those involved in the production of the moving picture are, in the long run, beneficial to all eyes. I always advise patients under treatment for the cure of defective vision to go to the movies frequently and practice central fixation. They soon become accustomed to the flickering light, and afterward other lights and reflections cause less annoyance.

In later years Dr. Bates advises closed eyes sunning.

TWO POINTS OF VIEW

Being anxious to know what my colleagues think of BETTER EYESIGHT, I lately sent notes to a number of them asking for their opinion. The following replies were so interesting that I think the readers of the magazine have a right to see them.

Dear Doctor:
As long as you ask for my opinion of your new magazine entitled BETTER EYESIGHT, permit me to give it to you in all frankness. It is what we call in the vernacular, "PUNK."
Meaning no personal offense, I am,
Your colleague.

Dear Doctor
Your little note received this morning and am glad to have the opportunity to tell you what I think of BETTER EYESIGHT.
It is all that you claim for it, and I am always glad to receive it, as I know that I am going to get something beneficial for myself as well as something for the good of my patients.
If the medical bigots had BETTER EYESIGHT on their desks, and would put into practice what you give in each number, it would be a great blessing to the people who are putting eye crutches on their eyes. I first tried central fixation on myself and had marvelous results. I threw away my glasses and can now see better than I have ever done. I read very fine type (smaller than newspaper type) at a distance of six inches from the eyes, and can run it out at full arm's length and still read it without blurring the type.
I have instructed some of my patients in your methods, and all are getting results. One case who has a partial cataract of the left eye could not see anything on the Snellen test card at twenty feet, and could see the letters only faintly at ten feet. Now she can read 20/10 with both eyes together and also with each eye separately, but the left eye seems, as she says, to be looking through a little fog. I could cite many other cases that have been benefited by central fixation, but this one is the most interesting to me. Kindly send me more of the subscription slips, as I want to hand them out to my patients.
Yours very truly,

November, 1919

1 - A condition in which the eye is shortsighted in all meridians, but more so in one than in the others.
2 - Jour. Am. Med. Assn., Dec. 10, 1910, p. 2028.
3 - Proc. Am. Acad. Arts and Sciences, July, 1916, vol. 51, No. 13.
4 - School Hygiene, Brief Course Series in Education, edited by Paul Monroe, Ph.D., 1916, pp. 235-236.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

December, 1919

THE IMAGINATION CURE

When the imagination is perfect the mind is always perfectly relaxed, and as it is impossible to relax and imagine a letter perfectly, and at the same time strain and see it imperfectly, it follows that when one imagines that one sees a letter perfectly one actually does see it, as demonstrated by the retinoscope, no matter how great an error of refraction the eye may previously have had. The sight, therefore, may often be improved very quickly by the aid of the imagination. To use this method the patient may proceed as follows:

Look at a letter at the distance at which it is seen best. Close and cover the eyes so as to exclude all the light, and remember it. Do this alternately until the memory is nearly equal to the sight. Next, after remembering the letter with the eyes closed and covered, and while still holding the mental picture of it, look at a blank surface a foot or more to the side of it, at the distance at which you wish to see it. Again close and cover the eyes and remember the letter, and on opening them look a little nearer to it. Gradually reduce the distance between the point of fixation and the letter, until able to look directly at it and imagine it as well as it is remembered with the eyes closed and covered. The letter will then be seen perfectly, and other letters in its neighborhood will come out. **If unable to remember the whole letter, you may be able to imagine a black period as forming part of it. If you can do this, the letter will also be seen perfectly.**
Imagine the letter is composed of many black periods and shift from period to period (part to part) on the letter.

THE MENACE OF LARGE PRINT

If you look at the big "C" on the Snellen test card (or any other large letter of the same size) at ten, fifteen, or twenty feet, and try to see it all alike, you may note a feeling of strain and the letter may not appear perfectly black and distinct. If you now look at only one part of the letter, and see the rest of it worse, you will note that the part seen best appears blacker than the whole letter when seen all alike, and you may also note a relief of strain. If you look at the small "c" on the bottom line of the test card, you may be able to note that it seems blacker than the big "C." If not, imagine it as forming part of the area of the big "C." If you are able to see this part blacker than the rest of the letter, the imagined letter will, of course, appear blacker also. If your sight is normal, you may now go a step further and note that when you look at one part of the small "c" this part looks blacker than the whole letter, and that it is easier to see the letter in this way than to see it all alike.
If you look at a line of the smaller letters that you can read readily, and try to see them all alike-all equally black and equally distinct in outline-you will probably find it to be impossible, and the effort will produce discomfort and, perhaps, pain. You may, however, succeed in seeing two or more of them alike. This, too, may cause much discomfort, and if continued long enough, will

produce pain. If you now look at only the first letter of the line, seeing the adjoining ones worse, the strain will at once be relieved, and the letter will appear blacker and more distinct than when it was seen equally well with the others.

If your sight is normal at the near-point, you can repeat these experiments with a letter seen at this point, with the same results. A number of letters seen equally well at one time will appear less black and less distinct than a single letter seen best, and a large letter will seem less black and distinct than a small one; while in the case of both the large letter and the several letters seen all alike, a feeling of strain may be produced in the eye. You may also be able to note that the reading of very fine print, when it can be done perfectly, is markedly restful to the eye.

The smaller the point of maximum vision, in short, the better the sight, and the less the strain upon the eye. This fact can usually be demonstrated in a few minutes by any one whose sight is not markedly imperfect; and in view of some of our educational methods, is very interesting and instructive.

Probably every man who has written a book upon the eye for the last hundred years has issued a warning against fine print in school books, and recommended particularly large print for small children. This advice has been followed so assiduously that one could probably not find a lesson book for small children anywhere printed in ordinary reading type, while alphabets are often printed in characters one and two inches high. The British Association for the Advancement of Science does not wish to see children read books at all before they are seven years old, and would conduct their education previous to that age by means of large printed wall-sheets, blackboards, pictures, and oral teaching. If they must read, however, it wants them to have 24- and 30-point type, with capitals about a quarter of an inch in height. This is carefully graded down, a size smaller each year, until at the age of twelve the children are permitted to have the same kind of type as their elders. Bijou editions of Bible, prayer-book and hymnals are forbidden, however, to children of all ages.[1]

In the London myope classes, which have become the model for many others of the same kind, books are eliminated entirely, and only the older children are allowed to print their lessons in one- and two-inch types.[2]

Yet it has just been shown that large print is a strain upon the eyes, while the retinoscope demonstrates that a strain to see at the near-point always produces hypermetropia[3] (commonly but erroneously called "farsight"). We should naturally expect, therefore, to find hypermetropia very common among small children, and it is. Of children eight and a half years old in the public schools of Philadelphia, Risley[4] found that more than eighty-eight per cent were hypermetropic, and similar figures may be found in all statistics of the subject. The percentage declines as the children become older, but hypermetropia, or hypermetropic astigmatism, remains at all ages the most common of all errors of refraction. Hypermetropia is, in fact, a much more serious problem than myopia, or nearsight. Yet we have heard very little about it, for the specialists have concluded, from its prevalence and its tendency to pass away or become less pronounced with the growth of the body, that it is the normal state of the immature human eye and therefore beyond the reach of preventive measures. It is true that many young children are not hypermetropic, but this fact is easily disposed of by the theory that the ciliary muscle alters the shape of the lens in such cases sufficiently to compensate for the shortness of the eyeball.

The baselessness of this theory, as well as the relation of large print to the production of hypermetropia, may be demonstrated by the fact that the condition can be relieved, and has been relieved in numerous cases, by the reading of fine print, combined with rest of the eyes. A child of eight was cured in a few visits by this means. Yet according to the British Association she should not, at this age, have been allowed to read any type larger than 12-point, with capitals more than an eighth of an inch in height. Many grown people have been cured of hypermetropia in the same way, and in all forms of functional imperfect sight the reading of fine print, when it can be done with comfort, has been found to be a benefit to the eyes. Even straining to see fine print is sometimes a benefit in myopia. Large letters are not a strain if central fixation, shifting are applied. Avoid diffusion, eccentric fixation.

SHIFTING AND SWINGING

Correct Appearance of Oppositional Movement

Shift left and right, top and bottom and in any direction on the E and see it move (swing) in the opposite direction.

When the eye with normal vision regards a letter either at the near-point or at the distance, the letter may appear to pulsate, or move in various directions, from side to side, up and down, or obliquely. When it looks from one letter to another on the Snellen test card, or from one side of a letter to another, not only the letters, but the whole line of letters and the whole card, may appear to move from side to side. This apparent movement is due to the shifting of the eye, and is always in a direction contrary to its movement. If one looks at the top of a letter, the letter is below the line of vision, and therefore appears to move downward. If one looks at the bottom, the letter is above the line of vision and appears to move upward. If one looks to the left of the letter, it is to the right of the line of vision and appears to move to the right. If one looks to the right, it is to the left of the line of vision and appears to move to the left.

Persons with normal vision are rarely conscious of this illusion, and may have difficulty in demonstrating it; but in every case that has come under my observation they have always become able, in a longer or shorter time, to do so. When the sight is imperfect the letters may remain stationary, or even move in the same direction as the eye.

It is impossible for the eye to fix a point longer than a fraction of a second. If it tries to do so, it begins to strain and the vision is lowered. This can readily be demonstrated by trying to hold one part of a letter for an appreciable length of time. No matter how good the sight, it will begin to blur, or even disappear, very quickly, and sometimes the effort to hold it will produce pain. In the case of a few exceptional people a point may appear to be held for a considerable length of time; the subjects themselves may think that they are holding it; but this is only because the eye shifts unconsciously, the movements being so rapid that objects seem to be seen all alike simultaneously.

The shifting of the eye with normal vision is usually not conspicuous, but by direct examination with the opthalmoscopes it can always be demonstrated. If one eye is examined with this instrument while the other is regarding a small area straight ahead, the eye being examined, which follows the movements of the other, is seen to move in various directions, from side to side, up and down, in an orbit which is usually variable. If the vision is normal, these movements are extremely rapid and unaccompanied by any appearance of effort. The shifting of the eye with imperfect sight, on the contrary, is slower, its excursions are wider, and -the movements are jerky and made with apparent effort.

It can also be demonstrated that the **eye is capable of shifting with a rapidity which the ophthalmoscope cannot measure**. (Saccadic movements) The normal eye can read fourteen letters on the bottom line of a Snellen test card, at a distance of ten or fifteen feet, in a dim light, so rapidly that they seem to be seen all at once. Yet it can be demonstrated that in order to recognize the letters under these conditions it is necessary to make about four shifts to each letter. At the near-point, even though

one part of the letter is seen best, the rest may be seen well enough to be recognized; but at the distance it is impossible to recognize the letters unless one shifts from the top to the bottom and from side to side. One must also shift from one letter to another, making about **seventy shifts in a fraction of a second**.

A line of small letters on the Snellen test card may be less than a foot long by a quarter of an inch in height; and if it requires seventy shifts to a fraction of a second to see it apparently all at once, it must require many thousands to see an area of the size of the screen of a moving picture with all its detail of people, animals, houses, or trees, while to see sixteen such areas to a second, as is done in viewing moving pictures, must require a rapidity of shifting that can scarcely be realized. Yet it is admitted that the present rate of taking and projecting moving pictures is too slow. The results would be more satisfactory, authorities say, if the rate were raised to twenty, twenty-two or twenty-four a second. The human eye and mind are not only capable of this rapidity of action, and that without effort or strain, but it is only when the eye is able to shift thus rapidly that eye and mind are at rest, and the efficiency of both at their maximum. It is true that every motion of the eye produces an error of refraction; but when the movement is short, this is very slight, and usually the shifts are so rapid that the error does not last long enough to be detected by the retinoscope, its existence being demonstrable only by reducing the rapidity of the movements to less than four or five a second. The period during which the eye is at rest is much longer than that during which an error of refraction is produced. Hence, when the eye shifts normally no error of refraction is manifest. The more rapid the unconscious shifting of the eye, the better the vision; but if one tries to be conscious of a too rapid shift, a strain will be produced.

Perfect sight is impossible without continual shifting, and such shifting is a striking illustration of the mental control necessary for normal vision. It requires perfect mental control to think of thousands of things in a fraction of a second; and each point of fixation has to be thought of separately, because it is impossible to think of two things, or of two parts of one thing, perfectly at the same time. The eye with imperfect sight tries to accomplish the impossible by looking fixedly at one point for an appreciable length of time; that is, by staring. When it looks at a strange letter and does not see it, it keeps on looking at it in an effort to see it better. Such efforts always fail, and are an important factor in the production of imperfect sight.

+ One of the best methods of improving the sight, therefore, is to imitate consciously the unconscious shifting of normal vision, and to realize the apparent motion produced by such shifting. Whether one has imperfect or normal sight, conscious shifting and swinging are a great help and advantage to the eye; for not only may imperfect sight be improved in this way, but normal sight may be improved also.

Detailed instructions for improving the sight by this method will be given in my forthcoming book, *The Cure of Imperfect Sight by Treatment without Glasses*.

Rapid and tiny shifts, the eyes ability to shift many times per fraction of a second are called Saccadic eye movements, vibrations. The eye produces many different movements, high frequency…

OPTIMUMS AND PESSIMUMS

In nearly all cases of imperfect sight due to errors of refraction there is some object, or objects, which can be regarded with normal vision. Such objects I have called *optimums*. On the other hand, there are some objects which persons with normal eyes and ordinarily normal sight always see imperfectly, an error of refraction being produced when they are regarded, as demonstrated by the retinoscope. Such objects I have called *pessimums*. An object becomes an optimum, or a pessimum, according to the effect it produces upon the mind, and in some cases this effect is easily accounted for.

For many children their mother's face is an optimum, and the face of a stranger a pessimum. A dressmaker was always able to thread a No. 10 needle with a fine thread of silk without glasses, although she had to put on glasses to sew on buttons, because she could not see the holes. She was a teacher of dressmaking, and thought the children stupid because they could not tell the difference between two different shades of black. She could match colors without comparing the samples. Yet she could not see a black line in a photographic copy of the Bible which was no finer than a thread of silk, and she could not remember a black period. An employee in a cooperage factory, who had been engaged for years in picking out defective barrels as they went rapidly past him on an inclined plane, was able to continue his work after his sight for most other objects had become very defective, while persons with much better sight for the Snellen test card were unable to detect the defective barrels. The familiarity of these various objects made it possible for the subjects to look at them without strain—that is, without trying to seem them. Therefore the barrels were to the cooper optimums; while the needle's eye and the colors of silk and fabrics were optimums to the dressmaker. Unfamiliar objects, on the contrary, are always pessimums.

In other cases there is no accounting for the idiosyncracy of the mind which makes one object a pessimum and another an optimum. It is also impossible to account for the fact that an object may be an optimum for one eye and not for the other, or an optimum at one time and at one distance and not at others. Among these unaccountable optimums one often finds a particular letter on the Snellen test card. One patient, for instance, was able to see the letter K on the forty, fifteen and ten lines, but could see none of the other letters on these lines, although most patients would see some of them, on account of the simplicity of their outlines, better than they would such a letter as K.

Pessimums may be as curious and unaccountable as optimums. The letter V is so simple in its outlines that many people can see it when they cannot see others on the same line. Yet some people are unable to distinguish it at any distance, although able to read other letters in the same word, or on the same line of the Snellen test card. Some people again will not only be unable to recognize the letter V in a word, but also to read any word that contains it, the pessimum lowering their sight not only for itself but for other objects. Some letters, or objects, become pessimums only in particular situations. A letter, for instance, may be a pessimum when located at the end, or at the beginning of a line, or sentence, and not in other places. When the attention of the patient is called to the fact that a letter seen in one location ought logically to be seen equally well in others, the letter often ceases to be a pessimum in any situation.

A pessimum, like an optimum, may be lost and later become manifest. It may vary according to the light and distance. An object which is a pessimum in a moderate light may not be so when the light is increased or diminished. A pessimum at twenty feet may not be one at two feet, or thirty feet, and an object which is a pessimum when directly regarded may be seen with normal vision in the eccentric field—that is, when not directly regarded.

For most people the Snellen test card is a pessimum. If you can see the Snellen test card with normal vision, you can see almost anything else in the world. Patients who cannot see the letters on the Snellen test card can often see other objects of the same size and at the same distance with normal sight. When letters which are seen imperfectly, or even letters which cannot be seen at all, or which the patient is not conscious of seeing, are regarded, the error of refraction is increased. The patient may regard a blank white card without any error of refraction; but if he regards the lower part of a Snellen test card, which appears to him to be just as blank

as the blank card, an error of refraction can always be demonstrated, and if the visible letters of the card are covered the result is the same. The pessimum may, in short, be letters or objects which the patient is not conscious of seeing. This phenomenon is very common. When the card is seen in the eccentric field it may have the effect of lowering the vision for the point directly regarded. For instance, a patient may regard an area of green wall-paper at the distance, and see the color as well as at the near-point; but if a Snellen test card on which the letters are either seen imperfectly, or not seen at all, is placed in the neighborhood of the area being regarded, the retinoscope may indicate an error of refraction. When the vision improves, the number of letters on the card which are pessimums diminishes and the number of optimums increases, until the whole card becomes an optimum.

A pessimum, like an optimum, is a manifestation of the mind. It is something associated with a strain to see, just as an optimum is something which has no such association. It is not caused by the error of refraction, but always produces an error of refraction; and when the strain has been relieved it ceases to be a pessimum and becomes an optimum.

HOME TREATMENT

It is not always possible for patients to go to a competent physician for relief. As the method of treating eye defects presented in this magazine is new, it may be impossible to find a physician in the neighborhood who understands it; and the patient may not be able to afford the expense of a long journey, or to take the time for treatment away from home. To such persons I wish to say that it is possible for a large number of people to be cured of defective eyesight without the aid either of a physician or of anyone else. They can cure themselves, and for this purpose it is not necessary that they should understand all that has been written in this magazine, or anywhere else. All that is necessary is to follow a few simple directions.

Place a Snellen test card on the wall at a distance of ten, fourteen, or twenty feet, and devote half a minute a day, or longer, to reading the smallest letters you can see, with each eye separately, covering the other with the palm of the hand in such a way as to avoid touching the eyeball.

Shift on letters on a eyechart (test card) with +both eyes together, then +one eye at a time, then +both eyes together again.

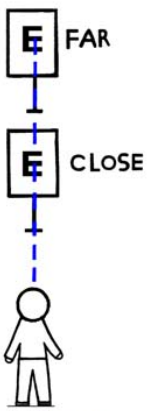
Place a eyepatch over the eye not in use and keep the eye open under the patch.

Keep a record of the progress made, with the dates. The simplest way to do this is by the method used by oculists, who record the vision in the form of a fraction, with the distance at which the letter is read as the numerator and the distance at which it ought to be read as the denominator. As already explained, the figures above the lines of letters on the test card indicate the distance at which these letters should be read by persons with normal eyesight. Thus a vision of 10/200 would mean that the big C, which ought to be read at 200 feet, cannot be seen at a greater distance than ten feet. A vision of 20/10 would mean that the ten line, which the normal eye is not ordinarily expected to read at a greater distance than ten feet, is seen at double that distance. This is a standard commonly attained by persons who have practiced my methods.

Children under twelve years who have not worn glasses are usually cured of defective eyesight by the above method in three months, six months, or a year. Adults who have never worn glasses are benefited in a very short time—a week or two—and if the trouble is not very bad, may be cured in the course of from three to six months. Children or adults who have worn glasses, however, are more difficult to relieve, and will usually have to practice the various methods of gaining relaxation which have been presented from month to month in this magazine and will be described in more detail in my forthcoming book, *The Cure of Imperfect Sight by Treatment without Glasses*.

It is absolutely necessary that the glasses be discarded. No half-way measures can be tolerated, if a cure is desired. Do not attempt to wear weaker glasses, and do not wear glasses for emergencies. Persons who are unable to do without glasses are not likely to be able to cure themselves.

Modern Natural Vision Improvement teachers state that reduced, weaker eyeglass lenses can be worn, but only when necessary. In later years Dr. Bates stated glasses can be worn if absolutely essential but, glasses will slow vision improvement.



Switch, shift on letters on two identical eyecharts placed at close and far distances.

Children and adults who have worn glasses will have to devote an hour or longer every day to practice with the test card and the balance of their time to practice on other objects. It will be well for such patients to have **two test cards, one to be used at the near-point, where it can be seen best, and the other at ten or twenty feet. The patient will find it a great help to shift from the near card to the distant one, as the unconscious memory of the letters seen at the near-point helps to bring out those seen at the distance.** (Switching close and far. Shift on the E on the close card. Switch to the distant card. Shift on the E on that card. Then back to the close card. Repeat. Remember, imagine the E clear.)

If the patient can secure the aid of some person with normal sight, it will be a great advantage. In fact, persons whose cases are obstinate will find it very difficult, if not impossible, to cure themselves without the aid of a teacher. The teacher, if he is to benefit the patient, must himself be able to derive benefit from the various methods recommended. If his vision is 10/10, he must be able to improve it to 20/10, or more. If he can read fine print at twelve inches, he must become able to read it at six, or at three inches. He must also have sufficient control over his visual memory to relieve and prevent pain.

Parents who wish to preserve and improve the eyesight of their children should encourage them to read the Snellen test card every day. There should, in fact, be a Snellen test card in every family; for when properly used it always prevents myopia and other errors of refraction, always improves the vision, even when this is already normal, and always benefits functional nervous troubles. Parents should improve their own eyesight to normal, so that their children may not imitate wrong methods of using the eyes and will not be subject to the influence of an atmosphere of strain.

December, 1919

1 - Report on the Influence of School Books upon Eyesight, second revised edition, 1913.
2 – Pollock: The Education of the Semi-Blind, Glasgow med. Jour., Dec, 1915.
3 – Bates: The cause of myopia, N.Y. Med. Jour., March 10, 1912.
4 – School hygiene, in System of Diseases of the Eye, edited by Norris and Oliver, vol. II, P. 353.

5 - An instrument for viewing the interior of the eye. When the optic nerve is observed with the ophthalmoscope, movements can be noted that are not apparent when only the exterior of the eye is regarded.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

January, 1920

THE PALMING CURE

Palm and remember, imagine a pleasant object, scenery and shift throughout the scene; from object to object, part to part on objects. See objects in motion, action like a real life movie in the mind, in color, clear.

One of the most efficacious methods of relieving eyestrain, and hence of improving the sight, is palming. By this is meant the covering of the closed eyes with the palms of the hands in such a way as to exclude all the light, while avoiding pressure upon the eyeballs. In this way most patients are able to secure some degree of relaxation in a few minutes, and when they open their eyes find their vision temporarily improved.

When relaxation is complete the patient sees, when palming, a black so deep that it is impossible to remember or imagine anything blacker, and such relaxation is always followed by a complete and permanent cure of all errors of refraction (nearsight, farsight, astigmatism and even old sight), as well as by the relief or cure of many other abnormal conditions. In rare cases patients become able to see a perfect black very quickly, even in five, ten or fifteen minutes; but usually this cannot be done without considerable practice, and some never become able to do it until they have been cured by other means. When the patient becomes able after a few trials to see an approximate black, it is worth while to continue with the method; otherwise something else should be tried.

Most patients are helped by the memory of some color, preferably black, and as it is impossible to remember an unchanging object for more than a few seconds, they usually find it necessary to shift consciously from one mental picture to another, or from one part of such a picture to another. In some cases, however, the shifting may be done unconsciously, and the black object may appear to be remembered all alike continuously.

When palming - remember, imagine a happy scene, objects, people in motion, color, clear like a real life movie in the mind.

Shift on objects in the imagination and remember, imagine they are clear. Relax; dynamic and deep relaxation. Famous scientists, artists, and others use this method when awake and before they drift off to sleep, working with the conscious and subconscious mind to visualize, work on a goal; art, science creation, invention, formula, health improvement, new home, job, business…

(Shift part to part on the flower on the right. Shift on the green dots: top and bottom, left and right, middle and in any direction.)

Shift part to part on the object to remember, imagine, see the object clear with the eyes open and in the mind with eyes closed.

THE VARIABILITY OF THE REFRACTION OF THE EYE

The theory that errors of refraction are due to permanent deformations of the eyeball leads naturally to the conclusion, not only that errors of refraction are permanent states, but that normal refraction is also a continuous condition. As this theory is almost universally accepted as a fact, therefore, it is not surprising to find that the normal eye is generally regarded as a perfect machine which is always in good working order. No matter whether the object regarded is strange or familiar, whether the light is good or imperfect, whether the surroundings are pleasant or disagreeable, even under conditions of nerve strain or bodily disease, the normal eye is expected to have normal refraction and normal sight all the time. It is true that the facts do not harmonize with this view, but they are conveniently attributed to the perversity of the ciliary muscle. This muscle is believed to control the shape of the lens, and is credited with a capacity for interfering with the refraction in some very curious ways. In hypermetropia (farsight), it is believed to alter the shape of the lens sufficiently to compensate, in whole or in part, for the shortness of the eyeball. In myopia, or nearsight, on the contrary, we are told that it actually goes out of its way to produce the condition, or to make an existing condition worse. In other words, the muscle is believed to get into a more or less continuous state of contraction, thus keeping the lens continuously in a state of convexity, which, according to accepted theories, it ought to assume only for vision at the near-point. This theory serves the purpose of explaining to the satisfaction of most eye specialists why persons who at times appear to have myopia, or hypermetropia, appear at other times not to have them. After people have reached the age at which the lens is not supposed to change it does not work so well, while in astigmatism it is available only to a limited extent even at the earlier ages; but these facts are quietly ignored.

When we understand how the shape of the eyeball is controlled by the external muscles, and how it responds instantaneously to their action, it is easy to see that no refractive state, whether it is normal or abnormal, can be permanent. This conclusion is confirmed by the retinoscope, and I had observed the facts long before my experiments upon the eye muscles of animals, reported in 1915[1] and to be described again in my forthcoming book, had offered a satisfactory explanation for them. During thirty years devoted to the study of refraction, I have found few people who could maintain perfect sight for more than a few minutes at a time, even under the most favorable conditions; and often I have seen the refraction change half a dozen times or more in a second, the variations ranging all the way from twenty diopters of myopia to normal.

Similarly I have found no eyes with continuous or unchanging errors of refraction, all persons with errors of refraction having, at frequent intervals during the day and night, moments of normal vision, when their myopia, hypermetropia, or astigmatism, wholly disappears. The form of the error also changes, myopia even changing into hypermetropia and one form of astigmatism into another.

Of twenty thousand school children examined in one year more than half had normal eyes, with sight which was perfect at times; but not one of them had perfect sight in each eye at all times of the day. Their sight might be good in the morning and imperfect in the afternoon, or imperfect in the morning and perfect in the afternoon. Many children could read one Snellen test card with perfect sight, while unable to see a different one perfectly. Many could also read some letters of the alphabet perfectly, while unable to distinguish other letters of the same size under similar conditions. The degree of this imperfect sight varied within wide limits, from one-third to one-tenth, or less. Its duration was also variable. Under some conditions it might continue for only a few minutes, or less; under others it might prevent the subject from seeing the blackboard for days, weeks, or even longer. Frequently all the pupils in a classroom were affected to this extent.

11 years, 132 Monthly Better Eyesight Magazine Issues in text & the Original Antique Print, printable in a PDF E-book -Free - mclearsight@aol.com - www.cleareyesight-batesmethod.info

Read, learn from Dr. Bates, the Best, Original Natural Eyesight Improvement Teacher

From this page onward; the pages, page numbers and 'refer to page number' notes are from the large Textbook Kindle edition. Added to this short Kindle edition to include extra training. Some page numbers are omitted due to pages being added from different chapters of the Textbook. The Textbook will be free in PDF on the website, Googlebooks and Archive.org in 2016.

The Following Words Describe Eye Conditions Listed in This Book

+Emmetropia = Normal Round Eye=clear distant vision.

Dr. Bates states that the eye lengthens slightly (due to action of the outer oblique eye muscles) to produce accommodation for clear close vision. Other eye doctors state that the lens, or lens and eye change shape (lens; due to action of the ciliary, inner eye muscle) to produce accommodation. Others theorize the lens may move as in a camera. The cornea, iris-pupil size, iris muscle also affects the refraction of light rays, amount of light in the eye and clarity of vision.

+Myopia = Nearsighted=abnormally lengthened eyeball=unclear distant vision.

+Hypermetropia = Hyperopia=Farsighted=abnormally shortened eyeball=unclear close vision.

+Presbyopia =abnormally shortened or greatly lengthened eyeball due to outer eye muscle tension and/or the lens' movement is lowered due to a tense-stiff ciliary muscle. Unclear close 'Reading' vision. Extreme neck muscle tension, arthritis lowering blood, oxygen, nutrient flow to the head, eyes, retina, lens and causing neck muscle tension to travel into the outer and inner eye muscles can cause unclear close, distant vision, cataracts, imperfect-imbalanced convergence of the left and right eyes up close and other conditions. The Bates Method, nutrition, sunlight, posture, movement, avoiding eyeglasses... corrects these conditions.

Reading fine print cures presbyopia. See the Close Vision chapter in the E-books and Better Eyesight Magazine. Eyeglasses, especially plus lens reading glasses cause presbyopia. They maintain and increase it.

+Astigmatism = Irregular, abnormal cornea, eye, (sometimes lens) shape due to outer, (sometimes inner) eye muscle tension, dysfunction. Tense outer eye muscles press, pull on the eye, altering it's shape. Usually the eye and cornea have the abnormal shape. Often there is more tension in 1-2… specific eye muscles. This causes the uneven eye, cornea shape and can also cause imperfect eye movement; tight, imbalanced shifting, convergence, divergence, accommodation, un-accommodation. Central-fixation-function of the eyes macula-fovea is disrupted. Objects are distorted, blurred, unclear in various areas of the visual field at close and/or far distances. Objects may appear double, triple, wavy… in one or both eyes.

Dizziness, headaches, can be experienced due to distortion of objects in the visual field and strain in the eyes, mind caused by the tense muscles, altered vision. Objects in the central or peripheral field can appear to move, produce a variety of visual effects when the eyes, head move and the astigmatism area of the eyes-cornea passes over objects.

Sinus congestion and headache pressure can also affect the eyes shape, muscles, nerves, eye movement, entire eye and cause unclear vision, astigmatism, a variety of visual disturbances. Check with your doctor if a sinus infection is suspected. Usually it is harmless but occasionally infection can travel into the eyes. See the Nutrition Chapter in the e-book for natural prevention of sinus congestion, infection; organic sea salt/pure water sinus flush and adding steam moisture to the air with a pure water/sea salt humidifier. Salt kills germs. Drink lots of water; staying hydrated cures many health, vision problems.

Extreme neck, shoulder muscle tension, misaligned neck vertebrae, poor posture, constantly twisting, tilting the head, neck can affect eye muscle, nerve, ear, sinus... function causing astigmatism and many different eye, vision problems and headache. A professional masseuse, physical therapist can relax the muscles in the body, neck and allow the vertebrae to align naturally without pressing on or twisting the spine neck, vertebrae. Avoid chiropractors; there's corruption in the business and many people are being harmed; mis-aligned neck, back vertebrae, injured nerves, blood vessels, cartilage, tendons… resulting in vision, hearing, balance impairment, astigmatism and other health problems including stroke. See videos on television news stations, YouTube.

Relax the neck naturally, safe. Drink water, stay healthy and use the Bates Method to avoid astigmatism, blur and eyeglasses.

+Amblyopia = Amblyopia Ex Anopsia=Dim, low, no vision or less clear vision in one eye, often in a wandering, crossed eye due to lack of use of the eye-it's vision or the brain shutting off the image in the wandering, crossed eye to prevent double vision. Can occur in both eyes. Can occur in an eye with very unclear, blurry vision with or without strabismus. Read cures below;

+Squint = Strabismus=Wandering or Crossed Eye - Dr. Bates uses the word 'Squint' to describe this condition. A tense outer eye muscle pulls the eye in, out, up, down... causing strabismus; slow, stiff, un-coordinated eye movement, imperfect convergence, divergence, often resulting in double vision. The state of convergence for close vision and divergence for distant vision functions with and affects accommodation for clear close vision, un-accommodation for clear distant vision.

(Squint also means 'squinting'; to squeeze the eyelids close together leaving only a small space for light to enter to produce temporary clearer vision. This is an incorrect vision habit that leads to tension, increased blurry vision.)

Strain in the mind, left and right brain hemisphere imbalance, one hemisphere or part of the brain not working correct with an eye muscle (or muscles), not activating it's movement or only partially activating it, or (more common) causing it to be tense, tight, pulling on the eye can cause strabismus, imperfect eye movement. The Bates Method and activities in the form of relaxation, movement, games corrects these conditions and restores normal eye movement, clarity of vision. A strabismus eye can develop a false macula in it's peripheral field. It is less clear than the true macula-fovea in the retina's central field. This condition causes the true central field 'macula-fovea' to lose it's clarity. So, the peripheral false macula with it's lower clarity becomes the clearest area. The person develops a bad-incorrect habit of looking at objects with the turned strabismus eye's peripheral field. The eye must wander to do this. The head posture is also turned abnormally. The cure; the eye-vision returns to normal by bringing the clearest, best vision back to the central field, in the true macula-fovea. (Switching, shifting, centralizing, palming, posture and other practices bring perfect vision.) When the vision improves, the central is clearest; then the eye will turn-move correct to face the central field with the other eye. Switching, shifting, centralizing is continued with eye coordination, teaming practices to completely align the eyes.

Eye muscle tension, eye/eye muscle dysfunction, strabismus, blur, astigmatism and other eye problems can also be caused by; Imperfect left and right brain hemisphere function, hemisphere imbalance which is often caused by interfering with a baby's crawling, natural walking stage, use of baby walkers. This disrupts normal left and right brain hemisphere development, activation & integration and function with the eyes and vision as the baby grows, learns to craw, walk and use their eyes.

Imbalance can occur at any age. The brain, hemispheres work with the eyes, eye muscles, retina, eye development, clarity of vision.

Other causes; injury from accidents in childhood or adult life, forceps birth delivery, incorrect handling of the baby at birth, doctors forcing mothers to avoid natural, healthy instincts of safe ways to massage, caress the baby's head, body that naturally insures perfect skull bone alignment after passing through the birth canal, 'like animals do with their tongue', (A natural birth through the birth canal correctly aligns the baby's skull bones. Animals then lick their baby's head, body to further align the bones. Cesarean section birth prevents complete, natural alignment of the skull bones. More causes; misaligned skull & eye socket bones and/or neck, back vertebrae, hips, collarbones, other bones, pressure, pulling on nerves.., muscles in/along the spine, neck, skull, eye socket. (Eye socket bones connect to the skull bones. Eye muscles attach to the back of the eye socket. Nerves, blood vessels to the eyes, eye muscles, retina pass through the eye socket.) T*he fact that turned, crossed eyes often go straight on their own, and with relaxation, other natural activities proves that the eye surgeon's statement that the eye muscles are too long or short, is incorrect.*

Usually; Mental strain, eye muscle tension, eyestrain, staring, squinting, not shifting, lack of central-fixation, the bad habit of using the eyes and the vision incorrectly, <u>wearing eyeglasses</u>, sunglasses, lack of sunlight, incorrect posture is the cause of defective vision; myopia, farsight, presbyopia, astigmatism, strabismus and advanced problems; detached retina, cataract, glaucoma, cornea ulcers...

Stress, negative emotions, thoughts, experiences can also strain, tense the mind/brain, eye muscles, cause brain hemisphere imbalance and un-coordinated eye muscle function, lowered vision. Stress can temporarily shut off part of the brain, lower certain brain functions, communication with the eyes, eye muscles, retina. Unclear vision can occur in a normally shaped eye at any distance when there is tension, strain in the mind/brain, emotions.

Computer use; looking all day at that one close distance, at the artificial 3-D images on the screen can tense up the eye muscles and eye movement in one or both eyes, cause one brain hemisphere to be dominant and one eye to be dominant at close distances, less clear vision at other distances... Divergence when looking to the far distance after hours on the computer can be slow, one or both eyes' movement almost frozen at the close distance, causing double vision when looking far.

Looking at text, pictures, videos on the computer screen is different than looking at real printed letters, pictures on a piece of paper and real objects in your environment. The computer screen is unnatural, it strains the mind-eyes. Would you sit up close to a TV screen daily for 8-10 hours reading, typing, tensing the arms, neck? No. Watching TV, movies is beneficial; there is continual movement on the screen, the eyes shift often, the TV is farther away, the eyes look to other distances often. No straining with the mouse, keyboard. The old fashioned smaller TV's without the intense artificial 3-D, no flat screen is best. Avoid 3-D movie-TV's and 3-D glasses colored red for one eye, blue for the other and all colored lenses, including clear colorless 3-D eyewear. They cause pain in the eyes, headache, blurred vision and confusion, strain in the brain, hemispheres, visual cortex and eyes. Some behavioral optometrists use these. They are harmful. Avoid it. Use the true Bates Method to correct blurry vision and strabismus.

Dr. Bates proved that all these eye conditions are most always caused by; mental strain, incorrect use of the eyes-vision, using effort, trying hard to see, outer eye muscle tension placing pressure, pulling, stretching, tension on/in the eye, cornea, lens, retina, distorting their shape, function, thus disrupting the focus of light rays in the eye-on the retina, impairing blood, oxygen, nutrient, fluid, energy circulation to, in, out of the eyes and tear production. Tears contribute to clear vision by acting as a natural contact lens and keeping the cornea, eye healthy and dirt, dust free, nice even surface. People state their vision improves to clear, even cataracts clearing from the eyes after crying. Crying, tears improve eye circulation, cleanses the inside and outside of the eye and stretches, relaxes the muscles in the eyes, head, neck and shoulders. Crying may also help clear out ear wax. This happened to me when I was a young child; crying, laying on the infected ear side waiting for the doctor's earache-wax medicine to work. It finally flushed out the infection. Possibly also wax. My cousin had a earache but no treatment given. He lost his hearing for years. I wish I had known that, would have split the medicine with him. Not sure when this happened. I never learned of it until around age 45. Yawn to produce tears and stretch, relax the neck, head, face, shoulder, collarbone-chest and body muscles. Relaxation travels to the eye muscles. Touch the top of your mouth with the end of the tongue to induce a yawn. Yawn 3-5 times.

<u>Outer</u> & <u>Inner</u> eye muscle tension affects eye, cornea, lens, iris/pupil, tear, blinking... function, health of the eyes, clarity of vision. Relaxed muscles=healthy eyes. Relaxing the ciliary-lens muscle keeps the lens moving, healthy at all ages.

Poor nutrition, low health, impaired health-function of the liver, kidneys, spleen, digestion, blood sugar, blocked energy flow (chi), lack of sunlight and other conditions affect the eyes' health and vision. Sunlight on the eyes, <u>no eyeglasses, no sunglasses</u> cures many eye and vision problems, relaxes the mind and eye muscles, improves the clarity of vision and kills germs, mold...

Neck, shoulder muscle tension is a major cause of eye muscle tension, eye muscle and eye nerve dysfunction, impaired circulation in the head, eyes, ears, sinus and unclear vision. Extreme neck muscle tension can pull or tilt a neck vertebra temporarily out of alignment, placing pressure, pulling on the nerves in the neck that travel to/connect to the brain stem, brain, eyes, retina, eye muscles, ears. (Eyes, ears, balance and vision are connected, work together.) Blood, lymph vessels can be affected. Neck muscle tension alone can do this to a lesser degree. Ear ringing can occur after many hours of typing on the computer.

The assembler of this book (Clark Night) experienced a crossed and wandering eye condition with astigmatism, double vision, sinus inflammation-congestion, ear ringing, vertigo, balance impairment, trouble walking, waking up with a temporary type of blindness when the neck gets stiff sleeping... <u>All</u> due to a neck injury, misaligned vertebrae, torn muscles, ligaments, injured nerves in the neck, spine caused by a dishonest chiropractor. The injuries were done <u>on purpose</u> in order to try to sell me 240 treatments and more for life, the doctor stating "You will never be cured". A new, honest doctor, physical therapy to realign the bones, muscles correct, free the pinched nerves and use of the Bates Method corrected the eye, vision, balance, hearing, sinus... conditions.

Natural Eyesight Improvement, Dr. Bates Method relaxes the mind/brain, body, eye muscles, eyes, neck and returns all parts of the eye to normal shape, function, perfect circulation with correct focus of light rays in the eyes maintaining healthy eyes and clear vision at all distances, close and far for life.

The Fundamental Principles of Treatment

Derived from Dr. Bates Better Eyesight Magazine - June, 1921 & Other Issues

HOW TO DEMONSTRATE THE FUNDAMENTAL PRINCIPLES OF TREATMENT

Experience, demonstrate that strain lowers the vision; Close the eyes and think of something disagreeable, some physical discomfort, or something seen imperfectly. When the eyes are opened, it will be found that the vision has been lowered. Next; repeat and think something pleasant, happy - open, notice clear vision. Staring causes strain, blurred vision. Shift, blink to relax and see clear.

Closing, Resting the Eyes

Palming

Central-Fixation

Shifting and Swinging

Memory

Imagination

Flashing & Blinking

Reading Familiar Letters

Practice with the Test Card

Sun Treatment - Sunning

Shifting on Small Objects,

Shifting on, Reading Tiny Letters, Fine Print Daily

Read a variety of examples, directions for these steps in this book; Dr. Bates pages, Emily Lierman's pages and the Better Eyesight Magazine in fine print section. More in Dr. Bates Better Eyesight Magazine 2400+ pages in the PDF E-Books.

Adults can experience free Natural Eyesight Improvement Training by watching how children (that have clear vision) use their eyes-vision; relaxed, their eyes move, 'shift' often, easily, clear vision occurs effortless, automatically without thinking about-controlling their eyes and vision. Do not let the child know you are watching their eyes because this might cause them to start thinking about their eyes, clarity of vision, try to control eye function. This will interfere with completely natural, normal eye function and visual clarity. Similar to a eye doctor placing a lot of pressure on a child to see an eyechart clear. The child must be allowed to see the chart in a relaxed state, memorize the letters. Relaxation, good memory produces clear eyesight. Imitate, practice the child's correct visual system functions.

Many persons fail to secure a temporary improvement of vision by closing their eyes, because they do not keep them closed long enough. Children will seldom do this unless a grown person stands by and encourages them. Many adults also require supervision.

To demonstrate that strain lowers the vision, think of something disagreeable—some physical discomfort, or something seen imperfectly. When the eyes are opened, it will be found that the vision has been lowered. Also stare at one part of a letter on the test card, or try to see the whole letter all alike at one time. This invariably lowers the vision, and may cause the letters to disappear.

It can always be demonstrated that when the normal eye looks intently at one point the vision always becomes imperfect. The normal eye, with normal sight does not stare and to avoid the stare is continuously moving. When it moves from side to side the letter regarded appears to move in the opposite directions but usually the movement is so short, so slow, so easy that most people do not notice it. The eye with imperfect sight does not usually see things moving because it is usually staring. The eye with imperfect sight can be benefited by practicing seeing things moving. This can be done properly, successfully or it can be done wrong, without benefit. When done properly the eye is at rest, when done improperly the eye is under a strain and this strain can usually be felt by the patient when his attention is called to it. It is a great help to the cure of imperfect sight to have the patient demonstrate what is wrong. When you know what is the matter with you that makes it possible to bring about relief.

Original Fundamentals by Dr. William H. Bates, Emily Lierman from *Better Eyesight Magazine* and Emily's book *Stories From The Clinic*

Fundamentals

By

W. H. Bates, M. D.

1. Glasses discarded permanently.

2. Central Fixation is seeing best where you are looking.

3. Favorable conditions: Light may be bright or dim. The distance of the print from the eyes, where seen best, also varies with people.

4. Shifting: With normal sight the eyes are moving all the time.

5. Swinging: When the eyes move slowly or rapidly from side to side, stationary objects appear to move in the opposite direction.

6. Long Swing: Stand with the feet about one foot apart, turn the body to the right—at the same time lifting the heel of the left foot. Do not move the head or eyes or pay any attention to the apparent movement of stationary objects. Now place the left heel on the floor, turn the body to the left, raising the heel of the right foot. Alternate.

7. Drifting Swing: When practicing this swing, one pays no attention to the clearness of stationary objects, which appear to be moving. The eyes wander from point to point slowly, easily, or lazily, so that the stare or strain may be avoided.

8. Variable Swing: Hold the forefinger of one hand six inches from the right eye and about the same distance to the right, look straight ahead and move the head a short distance from side to side. The finger appears to move.

9. Stationary Objects Moving: By moving the head and eyes a short distance from side to side, being sure to blink, one can imagine stationary objects to be moving.

10. Memory: Improving the memory of letters and other objects improves the vision for everything.

11. Imagination: We see only what we think we see, or what we imagine. We can only imagine what we remember.

12. Rest: All cases of imperfect sight are improved by closing the eyes and resting them.

13. Palming: The closed eyes may be covered with the palm of one or both hands.

14. Blinking: The normal eye blinks, or closes and opens very frequently.

15. Mental Pictures: As long as one is awake one has all kinds of memories of mental pictures. If these pictures are remembered easily, perfectly, the vision is benefited.

< This is a card given to patients that have received in person vision training by Dr. Bates and Emily Lierman-Bates at their Clinic.
Entire directions for #6, 8 are placed below;

The head and eyes DO move when doing the Long Swing; The head and eyes move with the body, in the same direction, moving together in synchronization, swinging to the left, then to the right, then back to the left, right...

The description for #6 means;

As you swing, DO NOT turn-move the head, eyes in a direction that is *opposite* of where the body is moving, turning to. Do not move the head, eyes in any different direction. Keep them moving in the same direction with the body; head-eyes-shoulders-body all moving together. Do not stop or turn back to look at objects that appear to move 'swing by' in the opposite direction-going past the eyes, body as you swing. Avoid locking the eyes-vision on the moving objects. Let the objects move opposite.
Example of correct movement;
When moving, turning the body left <;
the eyes, head also move, turn left <.
When moving, turning the body right >;
the eyes, head also move, turn right >.

When swinging left and right the eyes can look at-shift on 'for a *fraction of a second'* a letter on eyecharts placed on the left and right sides of the body. Keep the eyes, head and body moving. Do NOT stop, do not slow down the left and right swinging. See picture on page 399 and the eyecharts chapter page 428.

Clarification for #8. Start; The head and eyes look straight ahead. Then; the head and eyes move side to side, moving together left and right. See the finger appear to move 'swing' in the opposite direction. A variation is to place the finger in front of the face; between the eyes, at eye level. Move the head and eyes side to side. Don't lock the eyes on the finger.
Relax, move and blink.

Memory.—When the sight is normal the mind is always perfectly at rest, and when the memory is perfect the mind is also at rest. Therefore it is possible to improve the sight by the use of the memory. Anything the patient finds it agreeable to remember is a rest to the mind, but for purposes of practice a small black object, such as a period or a letter of diamond type, is usually most convenient. The most favorable condition for the exercise of the memory is, usually, with the eyes closed and covered, but by practice it becomes possible to remember equally well with the eyes open. When patients are able, with their eyes closed and covered, to remember perfectly a letter of diamond type, it appears, just as it would if they were looking at it with the bodily eyes, to have a slight movement, while the openings appear whiter than the rest of the background. If they are not able to remember it, they are told to shift consciously from one side of the letter to another and to consciously imagine the opening whiter than the rest of the background. When they do this, the letter usually appears to move in a direction contrary to that of the imagined movement of the eye, and they are able to remember it indefinitely.

The Mind's Eye

By EDITH MCNAMARA

DO you enjoy your mind's moving pictures or your mental pictures? I do. I get four times the value of a trip to the country or any place else by remembering the mental pictures of it perfectly.

I was not conscious at the time that while my physical eye was seeing everything around me my mind's eye was making a mental picture of it to be brought back later with the help of a perfect memory. After a few experiments with perfect mental pictures I came to the conclusion that I could only imagine what I remembered. It was impossible to imagine an object unless I could remember it perfectly. If I could not remember it perfectly it became only a jumbled up, hazy recollection of something.

I think its lots of fun playing tag with the memory or mental pictures. I like to dig out of my memory all the perfect mental pictures I can—one by one—for Central Fixation plays a big part in mental pictures, remembering one thing best at a time.

Having once been to Canada my favorite way of getting relaxed is to go there by mental pictures. I go along a beautiful country road, remember a lake that had impressed me, visualize it with my mind's eye and so on. Sometimes I skip a couple of towns and arrive in Canada very quickly and other times I get enough relaxation by just staying in one town for a while.

Why don't you try this? Perhaps someone will tell you a story that will remind you of an incident which happened years ago. Follow it up with the help of your memory and see how perfect a mental picture you can obtain. I am sure that you will find pleasure and relaxation in so doing. If you have to make an effort to form this mental picture let it alone for a while and then go back to it again and start where you left off. This will benefit you in your palming.

In the Office

By EMILY A. MEDER

THE Central Fixation office is a busy one. The regular routine is continually being interrupted by telephone calls, and personal visits from people who demand first-hand information.

One of our recent visitors was a writer who wore very heavy glasses. What I first noticed was that, while I was speaking, she would stare out of the window, as though in a trance, and slowly nod her head from time to time. This was to give me the impression that she was deeply interested in what I was saying, and carefully weighing each statement.

Staring, I told her is bad (I had noticed her doing this so dropped a little hint). She broke forth in smiles and made the astonishing remark that she thought it was bad also, and that she never stared. I politely told her she did, and how.

Our little black circular has been distributed quite widely throughout the United States. The first issue contained testimonials from book readers who were benefited and desired to help others. Owing to the fact that our work is so revolutionary, a great many people think we are boasting when we happen to print a few of these. Here's what one man answered:

"I am glad to advise you that for twenty-one years I have been stone blind in my right eye and the left has been removed and a glass eye placed in the socket. After reading four pages of Perfect Sight Without Glasses the vision in my right eye has become normal, and I can count my fingers at four feet with my glass eye."

Our business of explaining Perfect Sight Without Glasses is a serious one, but as shown above, it has its amusing side.

Perfect sight is natural and a normal condition, and those who have bad vision sometimes instinctively do those things which help them and improve their sight.

The meetings are proving so helpful and officers so enthusiastic that we extend a warm invitation to all those who are interested in this work.

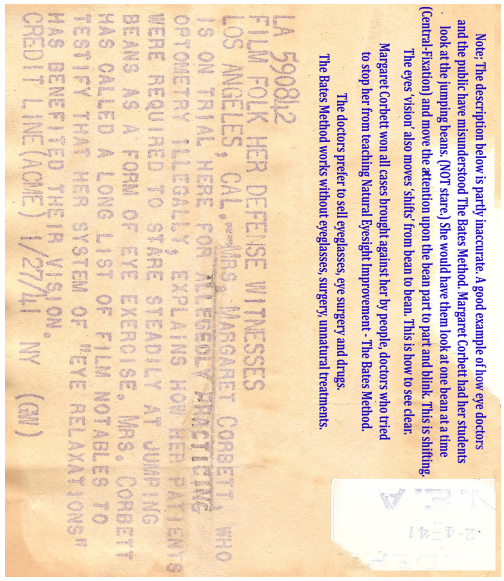
Helpful Hints from Correspondents

These are extracts from letters received from book readers and others. They might suggest new ways of improving your vision.

"I AM proud of my ability to eliminate headaches, fatigue and even nausea resulting from eyestrain. I formerly retired to my room when one of my severe headaches came on, and required the entire household to be absolutely quiet. Now, if my head or eyes pain, I go to my room, palm for a few minutes, swing the card, and feel rested. The headaches usually disappear when I am relaxed. Another discovery! The headaches only come when I do something wrong. The last one was caused by late shopping, rushing to put the house in order, and cooking the whole dinner myself. When I slowly did the long swing (with the broom in one hand and a duster in the other), I grew calm enough to greet my guests pleasantly."

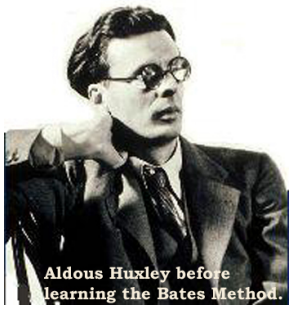
"I was shocked to discover that I was a starer. I knew that Dr. Bates advocated blinking to prevent the stare, and thought that I blinked and shifted constantly. Upon watching myself, however, I found that I only blinked when I remembered to do it consciously. I have made it a rule now to blink my eyes at the end of each line. This compulsory rule is becoming easier, and I believe that it will become a good habit real soon."

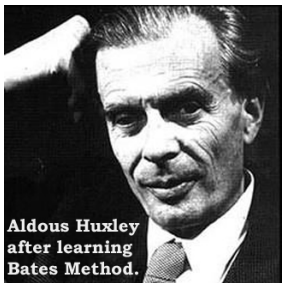
Margaret Corbett - Los Angeles, California - Defending *The Bates Method*

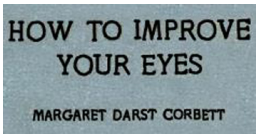


Margaret Corbett, famous Bates teacher. Trained directly by Dr. William H. Bates and Emily A. Bates. In the 1940's, eye doctors, opticians in Los Angeles, California tried to stop her from curing people's eyesight naturally. Other teachers were attacked. Later, laws were passed in New York City to block knowledge, teaching of The Bates Method. Eventually the laws were lifted as Bates teachers proved Dr. Bates' Method is safe, effective, natural. It is not medical treatment-practice of optometry. Picture, event date; 1941. Press photo. Stamp on back - NEA;ACME. Margaret is one of the first teachers to call central-fixation centralization and centralizing. A way to prevent staring by inducing the thought of movement 'eye-vision shifting' combined with central-fixation. See pg. 64 in her book *Quick Guide To Better Vision.*

Margaret Corbett


Aldous Huxley before learning the Bates Method.


Aldous Huxley after learning Bates Method.



This section contains Natural Eyesight Improvement practices taught by Dr. William H. Bates. Dr. Bates trained Margaret Corbett to be a Bates Method Teacher. She then taught Aldous Huxley the method, improved his eyesight and saved him from blindness. Huxley then wrote a book; *The Art of Seeing*. See Huxley in the pictures above; with strong eyeglasses before practice of the Bates Method. After practice; seeing clear without eyeglasses. Dishonest eye doctors tried to prevent people from teaching Natural Eyesight Improvement. They brought Margaret Corbett to court, accusing her of practicing Optometry without a license. She won the case. Huxley was a witness. He explained and verified how she improved his eyesight with natural methods. Many Hollywood stars, LA, CA residents were also witnesses, cured of imperfect sight. Margaret Corbett defended the Bates Method successfully in other cases, preserved the right to teach, practice it. Picture above; the title of one of Corbett's books teaching the Bates Method. Dr. Bates trained many people, doctors to be true Natural Eyesight teachers.

International Ophthalmology Clinic. 2: 1962. 921-34

BATES, HUXLEY, AND MYSELF
A Saga in Visual Re-Education

Charles Snyder

I AM A MYOPE. To the best of my knowledge, I have always been a myope. At present I am O.S. —10.00, O.D. —8.25. This degree of correction enables me to review with a small amount of authority the world of the myopic patient.

When the myope removes his glasses the entire world is instantly covered by a great blanket of soft, merging colors, drifting mysteries, beautiful, muted. The myope looks at faces and to him they never smile, never frown; they are never ugly, never beautiful; for the myope sees all faces as pink, brown, or yellow balloons, moving in and out of a haze, opening slightly across the middle to speak to him. He is only vaguely aware of twisted bodies. Old age he cannot recognize. To him no room is ever badly decorated, no house ever in need of repairs or painting. The lawns he sees are smooth and green; crab grass does not exist. Streets are never shabby or dirty.

In brief, the unglassed myope looks at the world and sees no evil, no ugliness; all is soft, colorful, harmonious, indefinite. The myope often loves this world and, when pressures of the real world become too great for him, he may retreat from the definite into the indefinite by removing his glasses "to rest his eyes."

At an early age the myope learns he is different from his playmates. He does not mind too much, but his parents and teachers do, and one fine day he is fitted with his first pair of

glasses. Now the world certainly looks different to him. He no longer stumbles over the cracks in the sidewalks and, wonder of wonders, he can read the blackboard in school. But little does he suspect that this is the first of endless pairs of glasses he will wear and that he will be a slave to his glasses until he dies.

The myope appreciates his glasses. He knows, oh so well, that he would be lost without them. Yet he resents them, for they are a badge of his physical inadequacy, they mark him as a weakling, as an incomplete human being. When he is young the cost of examinations and new glasses are a drain on his small pocketbook; when he is older each change in his prescription is a sign of his body's aging.

Consciously or unconsciously, every person who wears glasses wishes there was a simple, easy way he could eliminate them from his life. He wants something, anything, that will enable him to see the world as it really is.

In 1942 we spectacle-wearers of the world were given hope. One of our number, Aldous Huxley, of the famous British family of writers and scientists, told us that seeing was an art — an art we, as sensible people, could learn. Huxley wrote how at the age of sixteen he had a violent attack of keratitis punctata that left him with one eye just capable of light perception and the other with enough vision to detect the 200 foot letters of the Snellen chart at ten feet. He had corneal opacities, hyperopia, and astigmatism. In 1939, at the age of 45, while in California, he learned of a Mrs. Margaret D. Corbett and her method of visual re-education. Huxley, with little to lose, accepted the teachings of Mrs. Corbett. Within a couple of months he was reading without his glasses and without strain or fatigue. And, he found there were definite signs that the opacity of his cornea, which had remained stationary for 25 years, was clearing. About two years later his vision, although not normal, was almost twice as good and the opacity continued to clear.

The book was a composite of Huxley's ideas on the process of seeing — he confessed he knew little of the physiology of the eye — and an elaboration of the various eye exercises he had learned from Mrs. Corbett and others.

The book, an instantaneous best-seller, angered orthodox ophthalmologists because Huxley iterated that they were concerned only with "the mechanical palliation of symptoms" and had turned their backs on a long-known method that rested on the premise "that function of sight can be re-educated toward normality by appropriate body-mind co-ordination, and finally that the improvement in functioning is accompanied by an improvement in the condition of the damaged organ." Huxley rubbed salt in the wounds he inflicted by making statements about "the vested interests" of optical glass manufacturers, oculists, and optometrists. (Long known Method=Bates Method)

For the next several months the ophthalmic and medical journals were studded with rejoinders to Huxley's book. Some of these were magnificent displays of disdain and irony, others pyrotechnics of outright anger, and there was more than one scholarly analysis of the entire Bates-Corbett-Huxley thesis and of why it was physiologically and psychologically unsound. Here and there an ophthalmologist suggested that perhaps it might be a good idea to do a controlled study on the method and see if perhaps there was something of value in it.

All this verbiage on eye exercises was, however, confined to the professional literature that reached only those in the field of medicine and ophthalmology. The general public, receiving most of its information from the lay press, remained oblivious to the debatable points at issue. What the public knew was that a great writer had advocated a system that, if properly carried out, would result in a national abandonment of glasses as aids to better vision. Why, they asked, don't the eye doctors of the world follow the lead of Aldous Huxley and put an end once and for all to the use of "crutches" for the eyes?

The storm rose and fell. The public, although enormously interested in the subject, behaved as Huxley predicted it would — "human sloth and inertia" prevented any wholesale embracing on its part of an eye exercise program. In time the book ceased to be a best-seller, but not before it spawned a host of similar publications that are still with us in the form of inexpensive paperback editions.

The idea of good sight without glasses is an attractive one. Huxley, skilled writer and astute student of humanity, wittingly or unwittingly, hit upon a sure-fire publishing gimmick. Had his personal experience warranted it, or had he been of a mercenary nature, he might well have written on obesity cures, or how to win friends, or how to be successful, or how to make money without working. Popular success would have been his no matter what his subject.

But Huxley did not need popular success. He had enjoyed that for years. Why then did he write such a book? The answer can be found in reading the book: Huxley sincerely believed that eye exercises had helped him improve his vision. Conventional therapy had offered him little; unconventional therapy had doubled his visual capacity. Right or wrong, sound or unsound, the method had worked with him. His motives in writing the book were the highest — gratitude to those who had helped him and a desire on his part to help others.

This brings us to the question — What was the method Huxley used and who was responsible for it?

Today there are, according to the paperbacks, many methods of exercising the eyes and improving the vision, but all these methods have one thing in common: they all pay homage, directly or by implication, to William Horatio Bates, M.D. Huxley devotes several pages of his book to Bates and to his trials as a public benefactor.

Bates and his teachings have been on trial for over 45 years. Although the man died in 1931 his name, in certain circles, is one of infamy. It is not surprising that a body of mythology, fed by the scorn of his detractors and the adulation of his disciples, has grown about the man's memory.

Mythology to the contrary, William Horatio Bates was a *bona fide* doctor of medicine, and, by the standards of his time, well trained in the practice of ophthalmology and otolaryngology. In 1881 he graduated from Cornell University and in 1885 he obtained his M.D. degree from the College of Physicians and Surgeons. He then held posts as clinical assistant at the Manhattan Eye and Ear Infirmary, attending physician at Bellevue Hospital, and attending physician at the New York Eye and

(Bates teachers state the method is not really eye exercises. It is relaxation, imitation of normal function of the eyes, mind, visual system.)

Ear Infirmary. He lectured on ophthalmology at the New York Postgraduate Medical School and Hospital from 1886 to 1891.

In 1902 he disappeared. This disappearance has never been adequately explained and it has, on occasion, been used as a basis for the assertion that Bates was mentally unstable. His absence was not long, for later in 1902 "he was found working as an assistant in the Charing Cross Hospital, London."

Bates' stay in London was short. He returned to the United States and for several years he practiced ophthalmology in Grand Forks, North Dakota. He then practiced in Rochester, New York, and about 1908 he returned to New York City and assumed the post of attending physician at the Harlem Hospital. For three years, in the physiological laboratory of the College of Physicians and Surgeons, Columbia University, he conducted a series of animal experiments that showed him that the prevalent ideas concerning the errors of refraction were not correct.

He summarized his experimental work as follows:

> . . . these incorrect ideas ascribe errors of refraction to permanent, innate, or acquired deformations of the eye ball. . . . My experiments seem to demonstrate that we can go farther back and find such deformations in abnormal strain of the extrinsic muscles of the eye. In animals, myopic refraction is produced by excessive contraction or strain of the oblique muscles; hypermetropic refraction by an excessive contraction or strain of the recti muscles; and astigmatism by a modification of the extrinsic muscles. Neither the crystalline lens nor the ciliary muscle is a factor in the production of either myopic refraction or accommodation. (Modern scientists state the lens and eye change shape.)

With these points proven to his satisfaction, Bates was ready to state with assurance a credo he had been formulating for several years: "The cause of all errors of refraction is a strain to see. The cure is accomplished by relaxation. Relaxation is secured by central fixation." The term "central fixation" became a fixation with Bates. In 1920 when he published his opus, *The Cure of Imperfect Sight by Treatment Without Glasses,* it was published by the Central Fixation Publishing Company.

Bates did not come by his system overnight, nor did he come by it without a long period of trial and error. The elements of his method are simple and easy to put into practice. In addition, they provide a path by which the untrained and unskilled can bypass the trained ophthalmic practitioner and obtain results, it has been stated, impossible by proven clinical means. Thus, the Bates method combines the do-it-yourself instinct, the professional-is-wrong-the-amateur-is-right attitude, and the now-you-can-save-money-while-learning-at-home philosophy. The Bates system cannot fail to have a continuous appeal. In the references at the close of this article are listed Bates' writings on the subject. It is recommended, to those with an interest, that these papers be read in chronologic order. Together they represent how a man's will can create an edifice by persistently following the will-o'-the-wisp of an idea.

The fundamental principles of treatment under the Bates system are *Resting the Eyes, Palming, Swinging, Memory, Imagination, Flashing* or *Blinking, Central Fixation, Sun Treatment,* and *Practice with a Test Card.*

By *Resting* the eyes Bates advised closing the eyes for long or short periods of time and thinking of agreeable things. Most people, he said, temporarily benefit by this.

Palming is an extension of the idea of resting the eyes. The eyes are closed and gently covered with the palms of the hands. To achieve greater relaxation, the all-important element of the Bates system, the patient is urged to see black. Bates believed that when the patient could see black, even beyond his imagination, the patient's eyesight was normal. He had great faith in the value of seeing black. In 1917 he urged the United States army and navy to institute programs of training soldiers and sailors to see black. He felt this would enable the wounded to bear pain to a greater degree. (Seeing black is not necessary to obtain relaxation, clear eyesight.)

Swinging consists of standing erect, turning the torso and head from left to right and right to left, thus allowing the eyes to move as if in a swing. (The entire body; eyes, head, body move, turn left and right together.)

For *Memory* training, the patient recalls, with his eyes closed, the exact image of a printed page or of a word. When the sight is normal the mind is perfectly relaxed and when the memory is perfect the mind is also at rest; therefore, it is possible to improve the sight by the use of memory.

Imagination is allied to memory. Bates believed that vision was largely a matter of imagination and memory. He urged the use of imagination to help overcome visual handicaps.

In *Flashing* or *Blinking* the eyes are first rested by palming. The eyes are then opened, a line on the test chart studied briefly, blinking between each letter. The eyes are then palmed again and the process repeated.

To achieve *Central Fixation* rest is imperative and practice, such as reading fine type by as dim a light as possible, is recommended. (Also read fine print in the sunlight.)

Sunlight is necessary to normal eyes. A few minutes spent each day looking at the strong light of the sun through closed lids will work wonders. One cannot get too much of this.

Practice with the Test Card consists of learning to see the letters of the Snellen test chart. The patient begins with the letter or line he sees best, studies it, palms, uses his memory and imagination, and then reads the line again. The patient will find that he can in time, with practice, move two or three lines down the chart. This can be taken to mean an improvement in visual acuity.

It can be seen that this program is based on Bates' theory that all errors of refraction are caused by a strain to see; permanent, innate, or acquired deformations of the eyeball have nothing to do with refractive errors.

In themselves, with the possible exception of sunning, the exercises appear to be innocuous. They might even help to achieve the state of relaxation Bates so strongly advocated. Not so innocuous is the believing and preaching that eye exercises conscientiously executed will result in a marked increase of visual acuity and that eye exercises are an aid in treating pathologic conditions of the eyes. Practitioners of the Bates method have not hesitated to treat congenital and senile cataracts, acute glaucoma, and retinal detachments. And they have proudly announced that they have effected cures. Huxley states that he was able to effect a marked clearing of his central corneal opacity. It would be interesting to have photographs of this opacity before and after the eye exercise treatment.

It is a pity that no controlled study of the value of the Bates method has ever been made. However, two studies of systems of visual re-education have been made. One study was done by staff members of the Wilmer Institute and another study was done by members of the Department of Ophthalmology of Washington University Medical School.

The Wilmer study was done in 1944 and 1945 in conjunction with Dr. A. M. Skeffington of the Graduate Clinic Foundation of St. Louis, Missouri, and his associates. The patients, all uncomplicated myopes, were selected by Dr. Skeffington's group and were then examined by the Wilmer group before training was instituted and at the completion of training, and a third examination was done on those who showed improvement.

The program of training used by the Skeffington group was based on the postulate that "seeing is a learned act and it is therefore susceptible to training." They stated that their program had no relation to the Bates system, that it was based on known and accepted theories and facts of physiology and neurology of the eye and experimental psychology of vision.

One hundred and three myopes participated in the test. When the Wilmer group tabulated their results they were able to conclude that:

> With the possible exceptions of educating some patients to interpret blurred retinal images more carefully and of convincing some others that they could see better even though there was no actual improvement, this study indicates that the visual training used on these patients was of no value in the treatment of myopia.

In 1947 the Washington University Department of Ophthalmology group used 54 selected cases of myopia in their study. These patients were turned over to optometrists specially trained in eye exercise programs. These men treated the patients by their standard program of visual training. The Washington University ophthalmologists gave the patients pre- and post-training ophthalmologic examinations.

Twelve of the patients showed a definite improvement at the end of the training period. Twelve other patients showed a very slight change. The remaining 30 patients showed no change in their acuity. Twenty-three months after the training period, 5 of the 12 improved patients retained their improvement.

The St. Louis ophthalmologists and their *ad hoc* optometric colleagues reached a final conclusion that:

> Visual training has a definite, but limited, value in some myopic patients, preponderantly in those whose vision does not correspond with their known myopia. The effectiveness of visual training must be increased if it is to be generally applicable. Visual training merits further study from the ophthalmologist particularly in relation to progress in myopia.
>
> (The two studies did not apply Dr. Bates Method)

It is not surprising that these studies should have found some small measure of value in an eye exercise program, for the human eye can be trained; exercises and practice are effective in learning to see better or to use the eyes better in many ways. This philosophy was most successfully profounded in 1943 by Walter B. Lancaster. His paper was a direct product of the atmosphere created by the publication of Huxley's book.

Lancaster presented abundant evidence for the general proposition that exercises, repetition, practice, and learning lead to better performance, to the acquisition of skill, and that many ocular conditions exemplify this law.

The image on the retina and the accompanying sensations are only one part of the process of seeing. What takes place once these sensations are passed to the brain is by far the most important part of the act of vision. It is here that the *act* of seeing may well become the *art* of seeing Huxley wrote about.

Lancaster felt that ophthalmologists had neglected this aspect of vision, that they had concentrated their attention on the primary source of the sensation, the image on the retina. Clumsy practices by half-trained workers had marked investigations into the other half of the visual act. If only ophthalmologists would become active in this field, who knew what fertile investigations they might promote.

Few outside the inner circle of Bates enthusiasts believe that any change can be produced in the human eye by systems of eye exercises. It is generally held that the visual improvement that seems to have come to some who have been visually re-educated has come about not through any induced change or alteration in the physiology or anatomy of the eye itself. Rather, the supposed visual improvement has come about by training the subject to use effectively and fully the visual powers he has and to interpret quickly and accurately such sensations as his eye sends to his brain.

This person improved his eyesight 3 smaller lines down the eyechart. He applied some of the practices correct, some incorrect. He could have achieved more improvement if he had better training. He then allowed his eye doctor to convince him to stop the practice and return to wearing eyeglasses. The doctor prescribed him stronger glasses. This will reverse his progress, cause more vision impairment.

Persons preferring to sell eyeglasses, surgery would often post negative articles about the Bates Method, Teachers in news-papers, magazines in order to prevent people from learning, applying, teaching Natural Eyesight Improvement.

References

1. Bates, W. H. Improvement in the vision of myopia by treatment without glasses. *New York Med. J.* 53:455, 1891.
2. Bates, W. H. The vision of a case of myopia improved by treatment without glasses. *Virginia Med. Monthly* 18:941, 1891–1892.
3. Bates, W. H. Notes on spasm of the accommodation. *New York Med. J.* 55:622, 1892.
4. Bates, W. H. A suggestion of an operation to correct astigmatism. *Arch. Ophth.* 23:9, 1894.
5. Bates, W. H. The prevention of myopia in school children. *New York Med. J.* 94:237, 1911.
6. Bates, W. H. The cause of myopia. *New York Med. J.* 95:529, 1912.

Have You a Bible?

You all know fine print is beneficial.
Do you practice reading it?
Doctor Bates has proven that by reading a few lines of very fine print daily you are giving your eyes the relaxing "exercise" that will tend to prevent many common defects.
We publish a Bible that is printed in microscopic type, and measures one by one and a half inches and contains the new and old Testament.
Many patients past fifty have learned to read this with ease.

Price $4.00

7. Bates, W. H. Eye training for the cure of functional myopia. *New York Med. J.* 95:1029, 1912.
8. Bates, W. H. De la myopie fonctionelle. *Clin. opht.* 18:188, 1912.
9. Bates, W. H. A case of myopic refraction relieved by eye education. *Med. Rec.* 82:851, 1912.
10. Bates, W. H. Myopia prevention by teachers. *New York Med. J.* 98: 410, 1913.
11. Bates, W. H. The radical cure of errors of refraction by means of central fixation. *New York Med. J.* 101:925, 1915.
12. Bates, W. H. The imperfect sight of the normal eye. *New York Med. J.* 106:440, 1917.
13. Bates, W. H. Blindness relieved by a new method of treatment. Report of a case. *New York Med. J.* 105:200, 1917.

Antique Advertisements, Book Covers

Perfect Sight Without Glasses

By W. H. BATES, M.D.

Increased demand has enabled us to reduce the price from $5.00 to $3.00 per copy.

The book contains:

The principles and methods fundamental in the cure of imperfect sight by treatment without glasses.

METHODS OF TREATMENT

described in

Stories from the Clinic

By EMILY C. LIERMAN

This valuable book fully explains:

The author's experiences in treating clinic patients.

Her application of Dr. Bates' method of treatment to each individual case.

The symptoms and cure of imperfect sight by treatment without glasses.

How readers can benefit themselves.

"Stories from the Clinic" is a contribution to the practice of Ophthalmology

Reduced Price $2.00

Both Books Now $5.00

Central Fixation Publishing Company

383 Madison Avenue, New York City

PRESS OF THOS. B. BROOKS, INC., N.Y.

Perfect Sight Without Glasses

By W. H. BATES, M.D.

Increased demand has enabled us to reduce the price from $5.00 to $3.00 per copy.

The book contains:

The principles and methods fundamental in the cure of imperfect sight by treatment without glasses.

METHODS OF TREATMENT

described in

Stories from the Clinic

By EMILY C. LIERMAN

This valuable book fully explains:

The author's application of Dr. Bates' method of treatment to each individual clinic case.

The symptoms and cure of imperfect sight by treatment without glasses, and how readers can benefit themselves.

"Stories from the Clinic" is a contribution to the practice of Ophthalmology

Reduced Price, $2.00

Both Books Now $5.00

Books of 15 reprints from Medical Journals by W. H. Bates, M. D., reduced from $1.50 to $1.00 or sold separately at 10c each.

List of reprints sent on request.

Large Snellen "C" cards reduced from 50c to 25c each. All others reduced from 75c to 50c. Fundamental cards, including Small "C," Fundamental, Black "E," Inverted "E" and Numeral Cards are available now. This is a handy pocket or vest size and no one should be without one. 10c each.

Central Fixation Publishing Company

383 *Madison Avenue, New York City*

Perfect Sight Without Glasses

By W. H. BATES, M.D.

Increased demand has enabled us to reduce the price from $5.00 to $3.00 per copy.

The book contains:

The principles and methods fundamental in the cure of imperfect sight by treatment without glasses.

REPRINTS

By W. H. BATES, M.D.

*1—The Prevention of Myopia in School Children	.10
2—A Case of Myopic Refraction Relieved by Eye Education	.10
3—A Study of Images Reflected from the Cornea, Iris and Sclera	.10
4—Memory as an Aid to Vision	.10
5—Shifting	.10
6—Improving the Sight of Soldiers and Sailors and Relieving Pain	.10
7—Blindness Relieved by a New Method	.10
8—Writers Cramp, Its Cause and Cure	.10
*9—The Cure of Defective Eyesight by Treatment Without Glasses	.10
10—A Clinical and Experimental Study of Physiological Optics	.10
11—Imagination and Vision	.10
12—The Imperfect Sight of the Normal Eye	.10
13—Throw Away Your Glasses	.10
14—A Study of Imagination	.10
15—A New Outlook	.10
	$1.50

*Especially adapted to children

If the whole set is purchased the price will be $1.35

Central Fixation Publishing Company

383 Madison Avenue, New York City

PRESS OF THOS. B. BROOKS, INC., N.Y.

REPRINTS

By W. H. BATES, M.D.

*1—The Prevention of Myopia in School Children	.10
2—A Case of Myopic Refraction Relieved by Eye Education	.10
3—A Study of Images Reflected from the Cornea, Iris and Sclera	.10
4—Memory as an Aid to Vision	.10
5—Shifting	.10
6—Improving the Sight of Soldiers and Sailors and Relieving Pain	.10
7—Blindness Relieved by a New Method	.10
8—Writers Cramp, Its Cause and Cure	.10
*9—The Cure of Defective Eyesight by Treatment Without Glasses	.10
10—A Clinical and Experimental Study of Physiological Optics	.10
11—Imagination and Vision	.10
12—The Imperfect Sight of the Normal Eye	.10
13—Throw Away Your Glasses	.10
14—A Study of Imagination	.10
15—New Ways to Normal Sight	.10
*Especially adapted to children	$1.50

We are now selling this entire set in booklets, for $1.00

Large Snellen "C" cards reduced from 50c to 25c each

Fundamental cards including
Small "C" Snellen
Small Black "E"
Small Inverted "E"

are available now. This is a handy pocket or vest size and no one should be without one.

10c each.

Can be purchased at

Central Fixation Publishing Company

383 Madison Avenue, New York City

Telephone Vanderbilt 8865

The Cure of Imperfect Sight

By Treatment Without Glasses

By W. H. BATES, M. D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that *all errors of refraction are functional and therefore curable.*

METHODS OF TREATMENT whereby such *cures have been effected in thousands of cases.* These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is also profusely illustrated with original photographs.

PRICE $5.00 POSTPAID

SENT ON APPROVAL

Central Fixation Publishing Company

300 Madison Avenua, New York City

Now Ready

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is also profusely illustrated with original photographs.

Price $5.00, post-paid

Central Fixation Publishing Company

300 Madison Avenue, 41st Street

THE CURE OF IMPERFECT SIGHT

By Treatment Without Glasses

By W. H. BATES, M.D., New York

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction are functional and therefore curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.** These methods will enable not only physicians, but parents, teachers, and others who themselves possess normal vision to cure all children under twelve years of age who have never worn glasses, and many children and adults who have. Many persons with minor defects of vision are able to cure themselves.

Thoroughly scientific, the book is at the same time written in language which any intelligent layman can understand. It is profusely illustrated with original photographs and drawings, and will be published shortly at $3, post-paid. Orders may be placed now with the

Central Fixation Publishing Company,
39-45 East 42nd Street, New York.

Catalogue of Other Publications

BETTER EYESIGHT MAGAZINE

Back numbers may be obtained here which contain articles on the cause and cure of the following defects: Myopia, Squint, Glaucoma, Cataract, Pain, Blindness, Presbyopia and Retinitis Pigmentosa.
These articles include instructions for treatment.

Bound Volumes

Each volume contains one year's issue of twelve magazines.

Price, $3.50.

Burning Glass

If you notice a strain on your eyes, after emerging from a building into the sunlight, you need the Burning Glass. If the light feels uncomfortable, or if you cannot look up at the sun, the burning glass will help you. Instructions are issued on request.
If you need it, send for it today. Price, $5.00.

Fine Print for Relaxation

The Bible has been reduced from $4.00 to $2.50. Read what Dr. Bates says about fine and microscopic type, then get a Bible. This unique book measures only one by one and a half inches, and contains the Old and New Testament.

The Booklet

of fine print contains three chapters from the small Bible, together with "The Seven Truths of Normal Sight" as discovered by Dr. Bates. Instructions are also printed in the front of the book.

Test Cards

These prove invaluable in practicing Dr. Bates' method. Instructions issued. Can be used to test the eyes, follow progress, and improve sight.

75c.—$1.00.

Other Publications

Reduction of Microscopic Bible

THE little fine print booklets were a remarkable success. So much so, that many of our book subscribers, and Doctor Bates' patients have written in requesting the same type, but more of it. In view of this fact, we have bought a large shipment of the Photographic reduction of the Bible, which contains the Old and New Testament.

We are now able to sell these for $2.50 instead of the usual $4.00. The book measures one by one and a half inches, and is bound in attractive morocco leather.

We have had additional copies of the following back numbers of the Better Eyesight Magazine printed. Until the supply is exhausted they may be purchased for 20c per copy instead of the usual 30c.

Aug., 1920—School Number
Dec., 1920—Glaucoma—Cause and Cure
Feb., 1922—Pain — Cause and Relief
Mar., 1922—How to Help Blindness
Apr., 1921—Presbyopia
July, 1921—Vice of Concentration
Aug., 1921—How to Help the Children
May, 1922—Optical Swing
June, 1922—Miscellaneous

Burning Glass

ACCUSTOMS the sensitive eye to the sunlight. Also strengthens weak eyes and improves the sight. By applying the rays of the sun on the white of the eye two or three times a day great improvement can be noticed. Price $5.00.

Bound Volumes of the Magazine

CONTAINS one year's issue, including twelve magazines. Bound in serviceable leather, and is very attractive. Price $3.00.

Snellen Test Cards

Cardboard.....75c Paper.....50c

Used for the prevention and cure of imperfect sight. Instructions mailed with each card.

The Snellen Test Card

OWING to the many inquiries requesting information for the use of the Snellen Test Card, we have had little booklets printed explaining its value and how to use it in relation with Dr. Bates' method of treating imperfect sight. We shall be glad to send one of these on request.

In addition to the Snellens, we have what we call the Various Cards. These were made especially for those who have memorized the Snellen, and think that their good sight is due to the fact that they know what letter is coming. This is proof positive of one of Dr. Bates' statements that familiar things are more readily seen.

Children's Cards

CARDS for children's use, particularly, are printed with pictures of animals, and everyday objects. Many "games" can be played with these, much to the children's benefit.

The Various Cards cost one dollar each.

Better Eyesight

(Back Numbers)

ALL back numbers of the "Better Eyesight Magazine" can be obtained at this office, at thirty cents per copy. If you are doubtful as to just what issue you desire, tell us your defect, and we will send the number dealing with that subject.

Fine Print IS Beneficial!!!

EVERYONE who uses Dr. Bates' method should know why. Do you?

If not, send for the booklet of fine print, and help yourself to see.

If you do know, send for the booklet—and prove it.

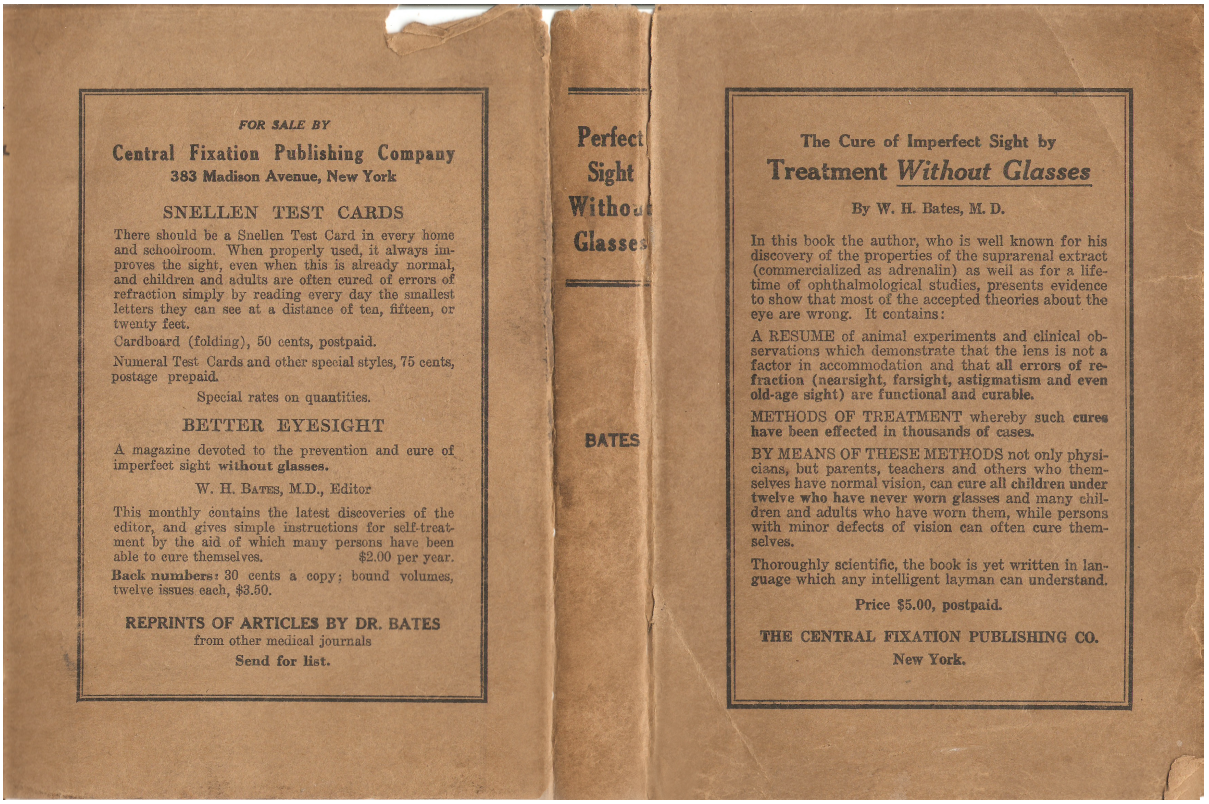
25 cents per copy

For Sale By

Central Fixation Publishing Company

383 Madison Avenue, New York City

Original Dust Jackets From *Perfect Sight Without Glasses,* 1920 Red Edition



FOR SALE BY

Central Fixation Publishing Company
383 Madison Avenue, New York

SNELLEN TEST CARDS

There should be a Snellen Test Card in every home and schoolroom. When properly used, it always improves the sight, even when this is already normal, and children and adults are often cured of errors of refraction simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

Cardboard (folding), 50 cents, postpaid.

Numeral Test Cards and other special styles, 75 cents, postage prepaid.

Special rates on quantities.

BETTER EYESIGHT

A magazine devoted to the prevention and cure of imperfect sight **without glasses.**

W. H. BATES, M.D., Editor

This monthly contains the latest discoveries of the editor, and gives simple instructions for self-treatment by the aid of which many persons have been able to cure themselves. $2.00 per year.

Back numbers: 30 cents a copy; bound volumes, twelve issues each, $3.50.

REPRINTS OF ARTICLES BY DR. BATES
from other medical journals
Send for list.

Perfect Sight Without Glasses

BATES

The Cure of Imperfect Sight by
Treatment *Without Glasses*

By W. H. Bates, M. D.

In this book the author, who is well known for his discovery of the properties of the suprarenal extract (commercialized as adrenalin) as well as for a lifetime of ophthalmological studies, presents evidence to show that most of the accepted theories about the eye are wrong. It contains:

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction (nearsight, farsight, astigmatism and even old-age sight) are functional and curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.**

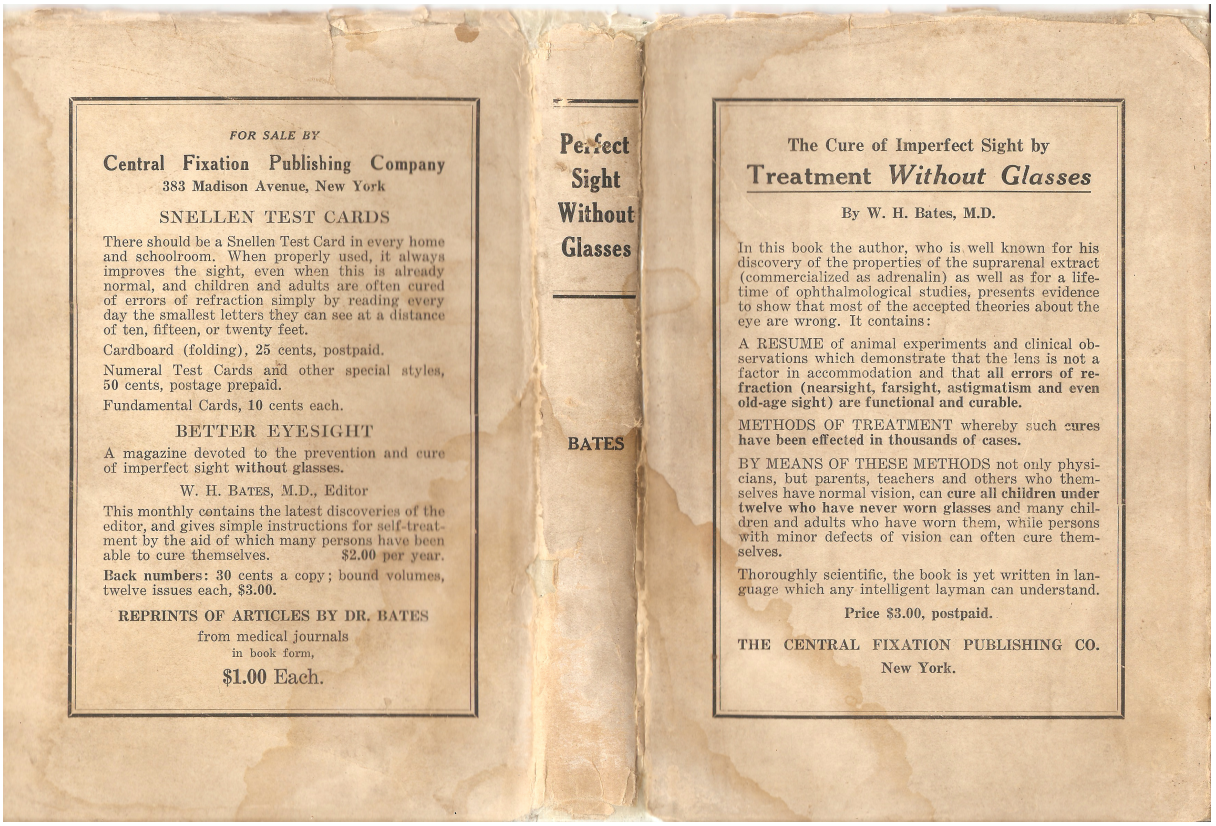
BY MEANS OF THESE METHODS not only physicians, but parents, teachers and others who themselves have normal vision, can **cure all children under twelve who have never worn glasses** and many children and adults who have worn them, while persons with minor defects of vision can often cure themselves.

Thoroughly scientific, the book is yet written in language which any intelligent layman can understand.

Price $5.00, postpaid.

THE CENTRAL FIXATION PUBLISHING CO.
New York.

Green Edition



FOR SALE BY

Central Fixation Publishing Company
383 Madison Avenue, New York

SNELLEN TEST CARDS

There should be a Snellen Test Card in every home and schoolroom. When properly used, it always improves the sight, even when this is already normal, and children and adults are often cured of errors of refraction simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

Cardboard (folding), 25 cents, postpaid.

Numeral Test Cards and other special styles, 50 cents, postage prepaid.

Fundamental Cards, 10 cents each.

BETTER EYESIGHT

A magazine devoted to the prevention and cure of imperfect sight **without glasses.**

W. H. BATES, M.D., Editor

This monthly contains the latest discoveries of the editor, and gives simple instructions for self-treatment by the aid of which many persons have been able to cure themselves. $2.00 per year.

Back numbers: 30 cents a copy; bound volumes, twelve issues each, $3.00.

REPRINTS OF ARTICLES BY DR. BATES
from medical journals
in book form,
$1.00 Each.

Perfect Sight Without Glasses

BATES

The Cure of Imperfect Sight by
Treatment *Without Glasses*

By W. H. Bates, M.D.

In this book the author, who is well known for his discovery of the properties of the suprarenal extract (commercialized as adrenalin) as well as for a lifetime of ophthalmological studies, presents evidence to show that most of the accepted theories about the eye are wrong. It contains:

A RESUME of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction (nearsight, farsight, astigmatism and even old-age sight) are functional and curable.**

METHODS OF TREATMENT whereby such cures **have been effected in thousands of cases.**

BY MEANS OF THESE METHODS not only physicians, but parents, teachers and others who themselves have normal vision, can **cure all children under twelve who have never worn glasses** and many children and adults who have worn them, while persons with minor defects of vision can often cure themselves.

Thoroughly scientific, the book is yet written in language which any intelligent layman can understand.

Price $3.00, postpaid.

THE CENTRAL FIXATION PUBLISHING CO.
New York.

1940 Edition

FOR SALE BY

EMILY A. BATES, PUBLISHER

20 Park Avenue, New York City

SNELLEN TEST CARDS

There should be a Snellen Test Card in every home and schoolroom. When properly used, it always improves the sight, even when this is already normal, and children and adults are often cured of errors of refraction simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

Cardboard (folding), 50 cents, postpaid in U. S. east of Chicago. $1.00 in Canada and elsewhere.

Fundamental Test Cards, pocket size, 15 cents each.

BETTER EYESIGHT

A magazine devoted to the prevention and cure of imperfect sight **without glasses.**

W. H. BATES, M.D., Editor

Back numbers: 30 cents a copy; leather bound volumes, twelve issues each, $5.00.

REPRINTS OF ARTICLES BY DR. BATES

from medical journals

in book form

$1.00 Each

Perfect Sight Without Glasses

BATES

The Cure of Imperfect Sight by

Treatment *Without Glasses*

By W. H. BATES, M.D.

In this book the author, who is well known for his discovery of the properties of the suprarenal extract (commercialized as adrenalin) as well as for a lifetime of ophthalmological studies, presents evidence to show that most of the accepted theories about the eye are wrong. It contains:

A RESUMÈ of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction (nearsight, farsight, astigmatism and even old-age sight) are functional and curable.**

METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.**

BY MEANS OF THESE METHODS not only physicians, but parents, teachers and others who themselves have normal vision, can **cure all children under twelve who have never worn glasses** and many children and adults who have worn them, while persons with minor defects of vision can often cure themselves.

Thoroughly scientific, the book is yet written in language which any intelligent layman can understand.

EMILY A. BATES, PUBLISHER

20 Park Avenue, New York City

FOR SALE

A Text Book

STORIES FROM THE CLINIC

BY

MRS. W. H. BATES

(the former Emily C. Lierman)

EXPERIENCES OF THE AUTHOR IN BENEFITING PATIENTS AT THE CLINIC

Price $2.00

FOR SALE BY

Central Fixation Publishing Company
210 Madison Avenue, New York City

SNELLEN TEST CARDS

There should be a Snellen Test Card in every home and schoolroom. When properly used, it always improves the sight, even when this is already normal, and children and adults are often cured of errors of refraction simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

Cardboard (folding), **50** cents, postpaid in U. S. east of Chicago. **$1.00** in Canada and elsewhere.

Numeral Test Cards and other special styles, **50** cents and **$1.00,** postage prepaid.

Fundamental Test Cards, pocket size, **15** cents each.

BETTER EYESIGHT

A magazine devoted to the prevention and cure of imperfect sight **without glasses.**

W. H. Bates, M.D., Editor

Back numbers: 30 cents a copy; leather bound volumes, twelve issues each, **$3.00.**

REPRINTS OF ARTICLES BY DR. BATES

from medical journals
in book form

$0.50 Each

#1.00

Perfect Sight Without Glasses

BATES

The Cure of Imperfect Sight by

Treatment *Without Glasses*

By W. H. BATES, M.D.

In this book the author, who is well known for his discovery of the properties of the suprarenal extract (commercialized as adrenalin) as well as for a lifetime of ophthalmological studies, presents evidence to show that most of the accepted theories about the eye are wrong. It contains:

A RESUMÉ of animal experiments and clinical observations which demonstrate that the lens is not a factor in accommodation and that **all errors of refraction (nearsight, farsight, astigmatism and even old-age sight) are functional and curable.**
METHODS OF TREATMENT whereby such **cures have been effected in thousands of cases.**

BY MEANS OF THESE METHODS not only physicians, but parents, teachers and others who themselves have normal vision, can **cure all children under twelve who have never worn glasses** and many children and adults who have worn them, while persons with minor defects of vision can often cure themselves.

Thoroughly scientific, the book is yet written in language which any intelligent layman can understand.

Price $3.00, postpaid.

THE CENTRAL FIXATION PUBLISHING CO.
210 Madison Avenue, New York City

FOR SALE

A Text Book

STORIES FROM THE CLINIC

BY

MRS. W. H. BATES
(the former Emily C. Lierman)

EXPERIENCES OF THE AUTHOR IN BENEFITING PATIENTS AT THE CLINIC

$2.00

Price $1.50

Medical Articles

By

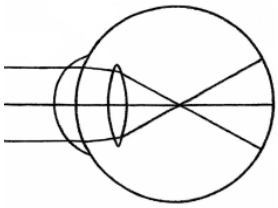
Ophthalmologist William H. Bates M. D.

Ophthalmologist
William H. Bates

Dr. William H. Bates discovered Natural Eyesight Improvement, 'The Bates Method'. His Experiments prove that tension in the outer eye muscles (oblique and Recti) disrupt, change the shape of the eye and focus of light rays in the eye resulting in; unclear close and distant vision, astigmatism, crossed, wandering eyes, cataract, glaucoma and other abnormal eye conditions.

He proved that the outer eye muscles, (oblique) when relaxed, contracting, un-contracting normally change the shape of the eye to normal to produce clear close and distant vision. Relaxed ciliary, iris, tear gland and other inner, outer eye muscles also function correct, produce clear vision, healthy eyes.

Mental, emotional strain, tension, using the eyes incorrect, staring, squinting is the main cause of outer eye muscle, eye tension and unclear vision. Dr. Bates proved that relaxation of the mind, body, outer eye muscles, all eye muscles results in a return of the eye to normal shape with correct focus of light rays in the eyes, on the retina with clear vision at all distances, removal of astigmatism and other eye problems, keeps the eyes healthy with normal circulation, eye pressure, correct function of the optic and other eye, visual system nerves. Abnormal pressure, tension, pulling on/in the eye, lens, retina is removed. The eye muscles; outer (oblique, recti & muscles for blinking, tears…) and inner (ciliary, iris... muscles near and attached to the lens) function correct producing perfect; convergence, accommodation for clear close and reading vision, divergence, un-accommodation for clear distant vision. Shifting 'eye movement' with Central-Fixation (central vision) and function of the retina, lens, brain, entire visual system are perfect.



Normal Round Eye Shape with Correct Focus of Light Rays on the Retina. Eyesight is Clear.

A few of Dr. Bates older articles were based on the beliefs of most Ophthalmologists. As Dr. Bates cured his own vision naturally, treated his patients, performed experiments on the eyes, eye muscles, nerves-he changed his view on accommodation and other eye functions. He then practiced, applied natural eye, vision treatments without the use of eyeglasses, surgery, drugs. This is the origin of Natural Eyesight Improvement. Dr. Bates recorded all his natural treatments, work in his Clinic in New York City, U.S.A. and other hospitals, locations during his lifetime in his book 'The Cure Of Imperfect Sight By Treatment Without Glasses' and 11 years, 132 Issues of his Monthly Better Eyesight Magazine.

Eyeglasses are often prescribed unnecessarily or 'too strong' (over-corrected) due to temporary nervousness, pressure to hurry, limited, incorrect eye, head, neck, body movement and use of machines that do not produce true use of the eyes, vision during an eye exam. Eye doctors also prefer to prescribe an 'extra stronger, increased strength' to the eyeglass lenses. All eyeglasses, especially strong eyeglass lenses, bifocals, astigmatism lenses, sunglasses cause fast, increased vision impairment and prescriptions for stronger eyeglass lenses. This leads to increased vision impairment, cataracts and other eye health, vision impairment.

Dr. Bates Better Eyesight Magazines, entire Medical Articles are Free in E-Book form with this book at www.cleareyesight.info mclearsight@aol.com

Virginia Medical Monthly. Vol 18. 1892. 941-943

Art. V.—The Vision of a Case of Myopia Improved by Treatment Without Glasses.

By W. H. BATES, M. D., of New York.

The cure of myopia has long been considered impossible. Helmholtz, von Graefe, Donders, and many other authorities in ophthalmology, make the positive statement that the visual axis of the myopic eye-ball cannot be shortened by treatment. Glasses are usually prescribed to improve the vision of myopia, and the patients are told that nothing else can be done. I wish to call the attention of the profession to the fact that the vision of myopia can be improved very much by treatment without glasses, and that this improvement is often so marked as to render glasses unnecessary.

The indications for treatment vary in different individuals. As a general rule it may be stated that when cocaine applied to the mucous membrane of the nose, produces temporary improvement in the vision, the removal of any abnormality, however slight at that point, will produce permanent improvement in the vision. The converse of this proposition is also true.

Again, when a pressure eye bandage produces temporary improvement in the vision, permanent and greater benefit

For pictures with small print due to the small page size of this book; place the page on a copier and print on a larger setting.

may be expected after its use for a variable length of time. Sometimes the pressure bandage is injurious. Atropine is beneficial in some cases, and injurious in others. In general, all methods of treament should be tentative, and the progress of each case carefully watched.

The following case of progressive myopia is an example of what can be done by treatment.

Miss F., aged 21, has complained of near-sightedness, growing worse for ten days. At first she wore a minus sixteen inch glass, which was gradually increased to a minus ten inch glass. She ascribes the cause of her myopia to reading by a dim light.

October 2nd, 1891, began treatment. Vision without glasses one-fortieth the normal in each eye. With a normal ten inch glass, vision normal. Media clear; posterior staphyloma in each eye. There is a slight conjunctivitis. Patient has attacks of phlyctenular conjunctivitis from time to time. General health is good. Treatment consisted of local applications of nitrate of silver, gr. x to ℥i, to lids three times a week, the use of a wash of hydrarg. bichlor. 1:5000 three times a day, calomel powder dusted into the eyes once daily, the wearing of a pressure eye bandage at night, treatment of the nose and throat, connter-irritation over the epigastrium, a tonic and tablets of calomel, gr. ⅓, *ter in die.*

October 9th Vision no better.

October 12th. Removed a cartilaginous spur from the left septum, which was pressing on the posterior portion of the inferior turbinated bone. The effect of the operation was to permanently improve the vision of both eyes to one-twentieth the normal.

October 23rd. Vision of the left eye improved to one-tenth the normal. The slight conjunctivitis had improved from the use of the local remedies, and the vision seemed to improve at the same time. With the ophthalmoscope, the fundus can be seen clearly without a minus glass, but only occasionally.

October 25th. Under ether; the retrotarsal folds were everted, scarified, and mercuric bichloride 1:500 rubbed in with a tooth brush.

October 30th. Vision of the right eye one-twentieth the normal; vision of the left eye one-tenth + the normal. Mucus discharge from both eyes. With the ophthalmoscope the fundus could not be seen except with a minus ten-inch glass.

November 23*rd*. Vision of the right eye one-tenth + the normal; vision of the left eye reduced to one-twentieth the normal. The left eye was put under atropine for two days without improvement in the vision. The pressure bandage had been stopped November 5th, because it seemed to cause too much irritation of the lids.

December 8*th*. Pressure bandage resumed. Vision not improved since November 23rd.

December 18*th*. Vision improved rapidly to more than one-half the normal. There is still considerable mucus discharge.

December 21*st*. Removed some adenoid tissue from the vault of the pharnyx, without any effect on the vision.

Patient was compelled to leave the city.

In a letter written *December* 26*th*, the patient reports her vision improved since she was last seen. She feels very grateful for what has already been done for her. For most purposes her vision is sufficient, and she feels more comfortable now *without* glasses than she formerly did when compelled to wear them.

131 *West Fifty-sixth street.*

The Syracuse Herald - Dec, 31, 1918

HEALTH AND HAPPINESS

WILL A MENTAL PICTURE OF BLACK HELP TO RELIEVE PAIN?

By DR. LEONARD KEENE HIRSHBERG.
A. B., M. A., M. D. (Johns Hopkins University.)

MEMORY is a wonderful thing. You can remember easily happy, interesting, useful, valuable events and things. But you cannot remember pain. Try as you may, a pain is not impressed upon your mental cosmos. The pangs of sorrow, the anguish of mind after a stroke of grief or the pains of a wound, terrible as these are in reality, once they are gone for good, there is no memory left, especially of physical pain.

These facts have led Dr. W. H. Bates of New York to suggest to the surgeon generals of the army and navy of a simple method by which the use of "dope" and drugs to relieve pain can be avoided. It is suggested that a memory image of black, if it can be brought into thought, will blot out the real sensation of pain. The color, if it can be called a color, which, it appears, is easiest to see perfectly, is black.

To relieve pain, according to Dr. Bates, you are to close your eyes, cover them with the palms of your hands, and thus shut out all light. Most individuals with good vision and a little practice are soon able to train themselves to picture a perfect black.

When black is seen perfectly, Dr. Bates maintains, a temporary relief, which may become permanent, soon follows. It is said that teeth have been extracted, broken bones set, and surgical operations have thus been performed.

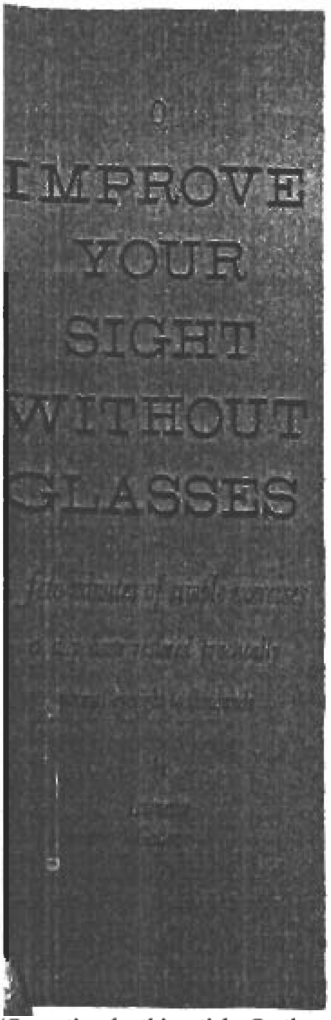
The sensation of cold, heat, fatigue, hunger, thirst, shock and the like are all said to have been relieved by remembering how to picture black before your eyes. Thus, if a soldier in a trench can recall the color black perfectly he may feel the icy water in which he is standing, but he will not suffer cold.

A soldier may succumb from weakness on the march, but he will not feel exhaustion if he thinks black.

Why the memory of black should behave so beneficially as a human anesthetic is not yet clear. It is, however, evident that the textures of mankind are apparently less disturbed by pain whenever the attention and the thoughts are directed at something else and away from the physical distress.

Black, it seems, can only be remembered thoroughly when mental control is absolute; when the bull's-eye of your attention is shot directly at black.

So simple an anesthetic or a counter-irritant is a memory picture of perfect black that it is logical and advisable for those who do or who may suffer pain to practice this use of their mental imaginery.



(Correction for this article; On the right of this page it says "One set (of muscles) pulls back on the eyeball to flatten it for viewing distant objects". This is a mis-interpretation. Dr. Bates states that the oblique outer eye muscles contract to lengthen the eye like a camera to view close objects clear. The oblique un-contract to return the eye to a round shape to view distant objects clear.)

DR. WILLIAM H. BATES threw a bombshell into the ophthalmological world 35 years ago with the publication of *Perfect Sight Without Glasses*. It has been exploding in a chain reaction ever since.

Bates meant exactly what the title said—even though it seemed impossible. He was a practicing New York eye specialist who developed a theory which violated about every orthodox idea of how we see, why we lose sight—and what can be done to regain it without reliance upon glasses as the sole corrective.

Bates' ideas were originally dismissed as utter foolishness, and are still being vigorously discussed pro and con. But, according to those who use and have improved upon Bates' techniques, they have brought normal or practically normal sight to scores of thousands of people long considered hopelessly nearsighted or farsighted, or otherwise afflicted and forced to wear glasses the rest of their lives.

After a few months of practicing Bates' theory, a nearsighted woman with 1/10th normal vision, who had worn glasses for most of her life, passed a driver's test with 20/40 vision, wearing no glasses. Two years later, she passed it again with 20/20, or normal, vision.

A farsighted businessman, for whom print was only a blur without the glasses which he had worn for half a dozen years, was able to discard them in less than three months.

Miss Clara A. Hackett, an outstanding teacher, and author of the recently published book, *Relax and See* (written in collaboration with Lawrence Galton and published by Harpers—Ed.), has added many techniques to increase the effectiveness of the original Bates methods and founded her own school. She and her trained instructors have helped not only nearsighted, farsighted and crossed-eye people but also more than 400 others with cataract, glaucoma and other eye ailments.

WHAT IS the Bates theory? In essence it is that, contrary to long-held belief, poor sight doesn't cause strain; rather, strain causes poor sight.

According to orthodox theory, you see near and far because the lens of your eye changes shape to focus light rays so they form a sharp image on the retina. If you look at something far away, the lens flattens. If you look at something nearby, it bulges.

Unfortunately, according to this theory, while the lens is remarkably elastic in youth, it gradually hardens with age, becoming less able to bulge and dooming most of us to "middle-aged" sight, or presbyopia. There's only one remedy—glasses to aid the natural lens. They're crutches—useful ones—but nothing more.

Bates, however, came to doubt this; and to doubt, in fact, the whole orthodox theory. For one thing, he had noticed that if a lens were removed surgically, the eye was still capable of some focusing for distances. How could you explain this in terms of the old theory? And how explain that visual capacity changed, even in normal eyes, when a person was ill or working under great tension or upset by emotional problems? He developed an entirely different theory that could explain all this.

If you're using a camera and want to take a close-up picture, you lengthen the distance between lens and film; you do the opposite for a distant shot. So with the eye, Bates held. Accommodation is accomplished by a change in the shape of the whole eyeball, rather than of the lens alone.

Six external muscles hold the eyeball in its socket and some of them also move the eye right, left, up and down, as you direct them. But they have another action, too. One set pulls back on the eyeball to flatten it for viewing distant objects; another lengthens the distance for near sight. If one set of muscles is too contracted, opposing the action of the other set, there's a loss in near or far sight.

What causes the over-contracted state? All muscles are activated by nerve impulses. Frequently, the impulses are set off by emotional stress. A tic is one example; a nervous stomach another.

So, Bates held, stress and strain may cause vision loss. It's actually almost a vicious cycle. When you're nervous and upset, you don't see well. And as you don't see well, you strain to see—peering, squinting, using trick vision. Eventually, you wind up producing your own eye troubles.

The techniques used by Bates and his followers aim at re-establishing

proper use of these muscles. And the cardinal principle is relaxation: the muscles are strained and clamped; relaxation is used to ease the strain and unclamp them.

You can't exercise them—not consciously—because they're not under conscious control. But once you get the tension out of them, get them fully relaxed, then you can get them working properly by practicing certain principles of good sight. As you practice these, automatically the muscles begin to function properly. No hard work is involved. You see better as you let your eyes see easily.

ALTHOUGH THERE ARE many techniques, here are some of the major ones:

SUNNING: On a sunny day, stand or seat yourself in front of a window and, with your eyes closed, turn your face to the sun. Or seat yourself comfortably in a chair about three feet away from a 10-watt light bulb, facing it with your eyes closed.

Keeping the lids closed, slowly move your head first toward one shoulder and then toward the other. The movement should be gentle and easy, with the neck and whole body relaxed.

Just a few minutes at a time is all that's necessary, and you'll notice a growing feeling of relaxation—in your eyes and, indeed, in your whole body. In addition, you may find that when you open your eyes after sunning, objects about you will appear a little sharper and clearer than they were before.

PALMING: After sunning, seat yourself comfortably in a chair and prop your elbows on a pillow or two held in your lap. Close your eyes and cover them with your cupped hands.

Let the heels of the palms rest lightly on the cheekbones, with the fingers of one hand resting on the forehead above the bridge of the nose and the fingers of the other hand crossed on top. The palms should not touch the eyes, the eyes should be lightly but not tightly closed, and there should be no tensing of fingers or brows.

The darkness coming after the light of sunning, plus the warmth from your hands, will give you a definite feeling that the eyes are relaxing still more.

SWINGING: Stand facing a window, with your feet about 12 inches apart, in an erect, easy posture, your hands hanging loosely at your sides. Gently, easily, swing your body to the left, shifting the weight on the feet so your right heel comes off the floor. Then swing to the right with your left heel rising, at the rate of a slow waltz.

As you swing from side to side, your eyes should follow a steady, eye-level, horizontal path. Don't stare. Blink occasionally, keep relaxed, and you'll soon get an illusion that as you swing in one direction, the room is revolving in the other. This is the basic "Long Swing" devised by Dr. Bates to help relax muscles not only in the eyes but also throughout the body.

MOBILITY DRILLS: If you have a sight loss, the chances are that you have a decided tendency to stare, trying to force yourself to see better. This does more than produce tension; it also adds to the sight loss.

For, when you fix your eyes on an object and try hard to pull it all into sight, you actually defeat yourself by using less sensitive areas of the retina.

Good sight, Bates instructors teach, is centralized sight, making use of the central sensitive portion of the retina. And it involves mobility. You see best when you try to see only a little at a time, moving quickly from one small portion of an object to other portions, until you've sighted the whole.

Mobility drills aim at re-establishing the habit of making sight mobile and centralized. One, for example, involves merely counting. Look around a room, turning your head and eyes from one picture to another, and count them. In the same way, count books, colors, furniture pieces, glasses on a shelf—it doesn't matter what, as long as you turn your head and eyes in the process in order to set your sight squarely on each object, allowing rays from it to center on the retina. Outdoors, you can count the windows in a building, the letters on a sign, the cars in a block, the people on the street.

ACCOMMODATION DRILLS: These involve practice in shifting vision between near and far to build up your ability to see equally well at all distances.

You can, for example, practice by looking from your wrist watch to a large clock in the distance, from a pencil in your hand to anything across the room. As you ride in a bus, you can look up from a line in a newspaper to a line on a sign in the bus or across the street.

In practicing accommodation you discard your glasses, as you do with all other practice, for short periods at a time. If you are nearsighted, you will not at once see objects clearly at a distance. Similarly, there'll be blurring in nearby ones if you're farsighted.

But gradually, as you continue the practice, you'll note improvement. For you will be viewing objects at bothersome distances in a new way—not just trying hard to see them in old ways.

Eyesight re-education is not, of course, a substitute for medical diagnosis and care. Bates teachers will not diagnose eyesight problems or diseases—and they do not treat them. Even if your problem is seemingly only nearsightedness or farsightedness, many request you to consult a doctor first to make certain no disease is present.

An increasing number of physicians now believe that the methods Bates originated, and the many others developed by teachers like Clara Hackett, help, because a lot of sight is mental—and tension may be a factor in the mind, if not in the muscles.

PHOTO CREDITS: Page 4 left Fritz Henle from Monkmeyer, top right Pan American World Airways, bottom right Nona Patterson from Black Star; 6 M-G-M; 14, 16 Carl Bakal; 88-100 George Barris Associates; 149-156 Carl Bakal; 158 from Phil Burchman; 161 Larry Barbier from Color Photos

Manuscripts, photographs, editorial ideas and other materials submitted for publication should be addressed to Coronet, 488 Madison Ave., New York 22, N. Y., and must be accompanied by a self-addressed envelope bearing sufficient postage if they are to be returned in the event they are not purchased. No responsibility will be assumed by Coronet for loss or damage of unsolicited materials submitted for its consideration.

When sunning; open the window for full spectrum sunlight. Sunlight passing through glass, plastic… alters, removes some of the sun's healthy rays resulting in partial spectrum, unbalanced light entering the eyes, brain, body.

The eyes also move with the head, same direction, side to side when facing the sun or a light bulb. I prefer the sun to a light bulb due to the chance of the bulb breaking, burning out resulting in an injury.

Time - March 15, 1943. 44-5

MEDICINE

Exercise v. Eyeglasses

Though it is popularly supposed that all boys who want to be airmen must have perfect eyesight, many an Army & Navy air cadet knows better. Eye exercises sufficiently improved his faulty eyes to give him a crack at the course. And many an enlisted man has eye exercises to thank for his uniform. Examples:

One boy who failed to get into Annapolis because of weak eyes (20/40 in one eye,* 20/80 in the other) got there after two months of exercises, has since become a flyer. Another boy was refused by the Coast Guard for 20/100 vision, got in after a month and a half of eye training. Neither the Army nor Navy keeps tab of how many of their men have eye-muscled their way in, but the American Optometric Association has records of 1,000.

Unchangeable Eyeballs? Nevertheless, very few ophthalmologists will undertake to correct nearsightedness, farsightedness or astigmatism (unequal eye images) by exercise; the practice is limited almost entirely to certain psychologists, opticians and physical therapists. Reason: different schools of thought about how the eye works.

Orthodox explanation of eye function is that the shape of the eyeball is as unchanging as a glass eye; focusing is done by the elastic lens at the front of the eye; the six muscles around each eye have no function except to turn the eyeball. In myopia (nearsightedness) the eyeball is usually long from front to back; in farsighted people it is often short. In a nearsighted eye, the image falls in front of the retina; in a farsighted eye, behind the retina. Astigmatism is usually laid to slight eye distortions. As orthodox doctors agree that a patient's efforts can not alter the shape of an eyeball, they accept distortions as final, prescribe glasses.

But they use exercises for difficulties which they recognize as muscular (cross eyes, wall-eyes, etc.). Exercise equipment may be simply a pin which a patient watches while it is brought up to his nose, or a complex instrument like the synoptophore, third cousin to a stereoscope, which not only exercises eyes but helps diagnosis as well. An eye-exerciser sponsored by American Optical Co.'s Dr. J. F. Neumueller (*see cut*) combines mirrors, lenses, lights and stereoscopic images to give eye muscles a strenuous workout.

With & Without Bates. Optical orthodoxy is just a finger-snap to many U.S. therapists, whose offices have as many discarded eyeglasses as Lourdes has crutches. They will try to fix almost any eye disorder (except infections, tumors, etc.) by exercise. Some follow the theory of the late Dr. William H. Bates (died 1931) that the six outside eye muscles not only turn the eye but change the shape of the eyeball.

International

DR. NEUMUELLER, EXERCISING
Some advocate blinking, swaying, looking at the sun.

Among present-day Bates disciples are Mrs. Bates and Optometrist Harold Peppard of Manhattan. Novelist Aldous Huxley was so much helped by the Bates method that he wrote a book about it (*The Art of Seeing*).

Mrs. Bates sticks closest to her late husband's teaching. To get eye relaxation a patient covers his eyes with his hands and thinks of blackness ("palming"); blinks frequently. He practices reading fine print. He "suns" his eyes (rolls his head while glancing sunward). Mrs. Bates has successfully treated many patients, including Ignace Jan Paderewski.

Batesian Peppard features "the long swing" (a relaxing exercise done by swaying the body from side to side); the deliberate reading of each letter in a word separately; tennis (especially for nearsighted people, to promote shifting and prevent staring); and reading upside down.

Samuel Renshaw, Professor of Experimental Psychology at Ohio State University, believes that training may not only correct many eye defects but also improve normal vision. His methods have been adopted by Ohio State's Naval Recognition School, which has sent some 500 Navy teachers out to help sailors recognize enemy aircraft, spot distant periscopes and life rafts.

The indisputable point about eye exercise: sometimes it works.

* That is, he could see at 20 feet what he should have seen at 40.

When looking at the nose or a small object close to the eyes; shift part to part, shift on tiny detals and blink to prevent staring , strain.

Oakland Tribune - Feb. 17, 1918

New and Interesting Facts from Science and Life

SOME NEW LIGHT on THE EYE

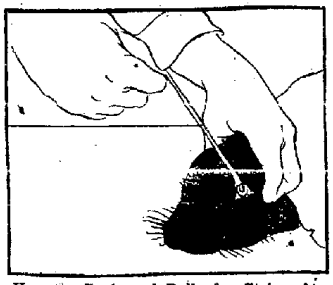
How DEFECTS of VISION May Be CORRECTED Without the Aid of GLASSES

DEFECTIVE sight is a world-wide plague, making its appearance along with civilization and increasing just in proportion as modern modes of living are adopted. Statistics for the last 50 or 100 years show that nine out of every ten persons over 21 usually have imperfect sight. At 31 the proportion is larger. Above 40 it is almost impossible to find a man or woman with perfect sight.

For 100 years the medical profession has wrestled in vain with the problem, finding no means compatible with the conditions of modern life for preventing errors of refraction, and no means of relieving them except eyeglasses. These, at their best, are poor substitutes for natural sight and often fail to relieve discomfort or to stay the progress of the malady, which is a much more serious one than most people imagine. The oculist knows that present conditions are ominous of evil for the future, that the near-sighted, far-sighted or astigmatic eye is disposed to all sorts of ocular disease.

At the present time the general attitude of the medical profession toward this evil, which is taken lightly only because it is so common, is one of hopelessness.

In this connection, revelations regarding the physical condition of the American people which have resulted from the examination of men for military service under the draft law have come as a shock to the nation, but are no more than was expected by those who have previously been giving attention to such matters. Even under a liberal interpretation of the lowered standard which was adopted in 1909, when Uncle Sam abandoned the attempt to raise an army and navy with normal vision, defective eyesight has been one of the leading causes of rejection for service in both the army and navy, and it has not actually headed the list. In 1915 it was by far the most common of the defects found among applicants for enlistment in the navy and marine corps. The total number refused for this cause among 106,892 was 12,374, while flat feet came next with only 8188 cases. This, too, was under a standard which, while higher than that of the army and navy, is only three-quarters normal.

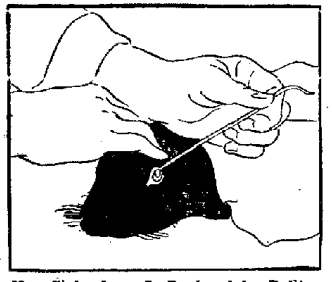


How the Backward Pull of a String Attached to the Eye Muscles of a Rabbit Made the Animal Far-Sighted.

Writers of books on the subject, practicing ophthalmists and others, while admitting the inadequacy of the eyeglass, all declare that it is the only remedy for errors of refraction.

"It is therefore not a little surprising," says Mary Dudderedge in the Scientific American, "to find one eye specialist who has actually been curing errors of refraction without glasses for 30 years, and who as the result of a remarkable series of experiments has been able to present evidence which appears to invalidate most of the theories on which the practice of opthalmology is based.

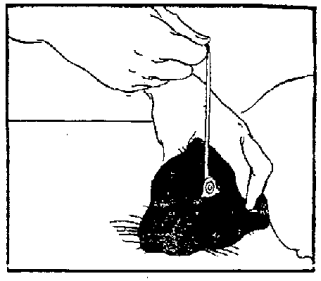
"Dr. William H. Bates of New York is already well known as the discoverer of the properties of adrenalin, an extract from the suprarenal gland of the sheep which is now used all over the world as an astringent and haemostatic, but his remarkable experiments on the eyes of animals and the startling conclusions that have been drawn from them have, as yet, attracted comparatively little attention, yet they promise to revolutionize the practice of opthalmology and are at the present moment of tremendous import to the country."



Near-Sightedness Is Produced by Pulling the String Forward.

Miss Dudderedge tells how Dr. Bates's success in treating the more severe form of refractive error, however, led him to doubt the existence of an incurable class, and how he undertook the series of experiments for the purpose of testing the accepted theories. By the manipulation of the exterior muscles of the eyeball, as shown in the three accompanying illustrations, the function of which has long been a matter of dispute, Miss Dudderedge says that Dr. Bates was able to make the eyes of fishes, rabbits and other animals near-sighted, far-sighted or astigmatic at will. "He therefore concluded," continues this writer, "that it was by the abnormal action of these muscles, rather than through the agency of the crystalline lens, that similar conditions were produced in the human eye, a view which was confirmed by observations on the human eye itself. He also observed accommodation taking place in eyes from which the crystalline lens had been removed.

"In a series of experiments not yet concluded, Dr. Bates is attacking the problem from a new angle. Since light reflected from a curved surface must change its focus if there is any change in the curvature of that surface, he is photographing the filament of an electric light reflected from various surfaces of the eyeball. As no photographer could be found to do this work, he had to learn photography himself for the purpose, and it was two years before he was able to get any satisfactory pictures. The testimony of these photographs is that the whole eyeball changes its shape during accommodation, and that the crystalline lens does not. The image has changed on the sclera, or white of the eye, and on the cornea, growing larger or smaller according as the convexity of the reflecting surface was altered; but no change was observed when it was reflected from the lens. These results are as yet wholly tentative; the investigation upon which they are based is still in progress, with the hope of attaining greater accuracy.



Pulling the String at Right Angles to the Eyeball Causes Astigmatic Vision.

"These accumulated observations have left no doubt in Dr. Bates's mind that the deformations of the eyeball upon which errors of refraction depend are due to an abnormal strain upon the extrinsic muscles of the orb of vision, and that, far from being permanent, they last only so long as the strain continues. This abnormal action always results from a strain to see, conscious or unconscious. When the eyes strain to see distant things the oblique muscles contract and by elongating the eyeball produce the myopic refraction. When they strain to see near things the recti muscles contract and by flattening the eyeball produce the hypermetropic refraction. The problem of curing errors of refraction, therefore, is to induce the eyes to take it easy, and look at things without effort.

"This is accomplished by a system of eye education so simple that patients, when they are cured, proceed at once to cure their relatives and friends. Teachers have also used it successfully to prevent and cure myopia in their pupils. More than 1000 children with defective sight have regained normal vision by this means. In one class in which there had been 27 eye defectives, 25 were reported cured, while one truant and one incorrigible had become good students, because they were now able to study without pain.

"The fundamental principle of this new system of eye training is what Dr. Bates calls central fixation. The trouble with the civilized eye, he says, is that we use it as though it were a photographic camera. The camera can see everything which falls upon its sensitive plate equally well, but the human eye is not built that way. The retina has more nerve cells in the center than anywhere else, and therefore is designed to see one point better than others in its field of vision. In other words, we see best in the direction in which we are looking. When we submit to this the eye is at rest and Dr. Bates asks us to believe, contrary to all previous testimony and experience on the subject, it can never tire, no matter how much it is used for near work or any other kind of work. It can work all day and all night, he says, and while the rest of the body will tire it will not. But when the eye attempts to see every point in its field of vision about as well as the central point, not only is its visual power lowered, but it is subjected to a severe strain, as any one can observe for himself by trying to see every part of any surface of four or five inches in extent, or even much less, equally well at one time. This strain Dr. Bates believes to be at the bottom of most eye troubles.

"Central fixation is attained by two methods, practice and rest, the latter coming first. To rest the eyes the patient is told to look at something black and then cover his eyes in such a way as to exclude the light and avoid pressure on the eyeballs. If he remembers the black perfectly, he will see black. Otherwise he may see all the colors of the rainbow, but usually sees gray. When one does succeed in seeing black the effect is very surprising. The vision is noticeably improved, though it may be only for a moment, and letters on the test card that one was unable to see before stand out clearly. The explanation offered for this phenomenon is that the eyes and brain are relaxed by seeing black, thus enabling the former to function normally. Incidentally if one has had any headache or pain in the eyes it will probably be gone. Whether the black is seen or remembered, the effect is similar, and as one cannot have the color always before the eyes, nor see with them closed, the person who wants to see normally must learn to remember black just as well with the eyes open as shut.

"The familiar Snellen eye chart, used by all oculists to test the eyes of their patients, is used as a basis for the practice of central fixation, the patient being directed to try to see one part of a letter better than another. The relief which this simple expedient gives to tired eyes is astonishing, and the smaller the letter selected for the purpose the greater it is.

"By means of this simple system of eye education Dr. Bates maintains that the organs of vision can be kept always in a normal condition. The remedy is not to close our schools and stop our printing presses and return to a primitive condition in which there was no astigmatism or short sight, but to practice the art of seeing perfectly for a few minutes every day."

Modern eye doctors state they have proved the lens changes shape for accommodation. Others state the eye and lens change shape. The Bates Method relaxes, returns to normal function all the eye muscles; outer oblique, recti, tear gland.... and inner; ciliary/lens, iris resulting in clear eyesight.

Shifting is combined with central-fixation; the central point, field moves with the eyes from part to part, point to point on objects and from object to object maintaining relaxation and perfect sight.

Seeing black is not mandatory when palming. Relaxation can be obtained by remembering, imagining a pleasant, happy thought, scenery, objects. Let the mind drift from one pleasant thought to another. Imagine in color, motion, clear. A river, field of grass, flowers, wind blowing the grass, leaves in the trees, sun shining...

Same picture as previous page with the missing letters filled in.

New and Interesting Facts from Science and Life

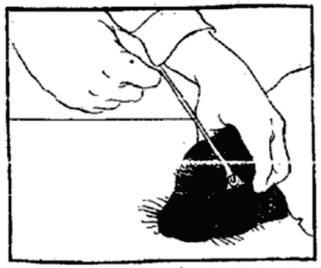
SOME NEW LIGHT on THE EYE

DEFECTIVE sight is a world-wide plague, making its appearance along with civilization and increasing just in proportion as modern modes of living are adopted. Statistics for the last 50 or 100 years show that nine out of every ten persons over 21 usually have imperfect sight. At 31 the proportion is larger. Above 40 it is almost impossible to find a man or woman with perfect sight.

For 100 years the medical profession has wrestled in vain with the problem, finding no means compatible with the conditions of modern life for preventing errors of refraction, and no means of relieving them except eyeglasses. These, at their best, are poor substitutes for natural sight and often fail to relieve discomfort or to stay the progress of the malady, which is a much more serious one than most people imagine. The oculist knows that present conditions are ominous of evil for the future, that the near-sighted, far-sighted or astigmatic eye is disposed to all sorts of ocular disease.

At the present time the general attitude of the medical profession toward this evil, which is taken lightly only because it is so common, is one of hopelessness.

In this connection, revelations regarding the physical condition of the American people which have resulted from the examination of men for military service under the draft law have come as a shock to the nation, but are no more than was expected by those who have previously been giving attention to such matters. Even under a liberal interpretation of the lowered standard which was adopted in 1909, when Uncle Sam abandoned the attempt to raise an army and navy with normal vision, defective eyesight has been one of the leading causes of rejection for service in both the army and navy, as it has not actually needed the list. In 1915 it was by far the most common of the defects found among applicants for enlistment in the navy and marine corps. The total number refused for this cause among 106,392 was 12,374, while flat feet came next with only 3188 cases. This, too, was under a standard which, while higher than that of the army and navy, is only three-quarters normal.



How the Backward Pull of a String Attached to the Eye Muscles of a Rabbit Made the Animal Far-Sighted.

Writers of books on the subject, practising ophthalmists and others, while admitting the inadequacy of the eyeglass, all declare that it is the only remedy for errors of refraction.

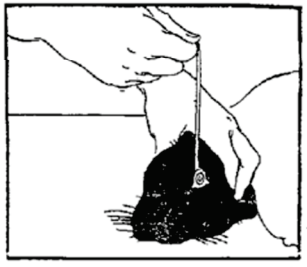
"It is therefore not a little surprising," says Mary Dudderedge in the Scientific American, "to find one eye specialist who has actually been curing errors of refraction without glasses for 30 years, and who as the result of a remarkable series of experiments has been able to present evidence which appears to invalidate most of the theories on which the practice of opthalmology is based.

"Dr. William H. Bates of New York is already well known as the discoverer of the properties of adrenalin, an extract from the suprarenal gland of the sheep which is now used all over the world as an astringent and haemostatic, but his remarkable experiments on the eyes of animals and the startling conclusions that have been drawn from them have, as yet, attracted comparatively little attention, yet they promise to revolutionize the practice of opthalmology and are at the present moment of tremendous import to the country."

Near-Sightedness Is Produced by Pulling the String Forward.

Miss Dudderedge tells how Dr. Bates's success in treating the more severe form of refractive error, however, led him to doubt the existence of an incurable class, and how he undertook the series of experiments for the purpose of testing the accepted theories. By the manipulation of the exterior muscles of the eyeball, as shown in the three accompanying illustrations, the function of which has long been a matter of dispute, Miss Dudderedge says that Dr. Bates was able to make the eyes of fishes, rabbits and other animals near-sighted, far-sighted or astigmatic at will. "He therefore concluded," continues this writer, "that it was by the abnormal action of these muscles, rather than through the agency of the crystalline lens, that similar conditions were produced in the human eye, a view which was confirmed by observations on the human eye itself. He also observed accommodation taking place in eyes from which the crystalline lens had been removed.

In a series of experiments not yet concluded, Dr. Bates is attacking the problem from a new angle. Since light reflected from a curved surface must change its focus if there is any change in the curvature of that surface, he is photographing the filament of an electric light reflected from various surfaces of the eyeball. As no photographer could be found to do this work, he had to learn photography himself for the purpose, and it was two years before he was able to get any satisfactory pictures. The testimony of these photographs is that the whole eyeball changes its shape during accommodation, and that the crystalline lens does not. The image has changed on the sclera, or white of the eye, and on the cornea, growing larger or smaller according as the convexity of the reflecting surface was altered; but no change was observed when it was reflected from the lens. These results are as yet wholly tentative; the investigation upon which they are based is still in progress, with the hope of attaining greater accuracy.



Pulling the String at Right Angles to the Eyeball Causes Astigmatic Vision.

"These accumulated observations have left no doubt in Dr. Bates's mind that the deformations of the eyeball upon which errors of refraction depend are due to an abnormal strain upon the extrinsic muscles of the orb of vision, and that, far from being permanent, they last only so long as the strain continues. This abnormal action always results from a strain to see, conscious or unconscious. When the eyes strain to see distant things the oblique muscles contract and by elongating the eyeball produce the myopic refraction. When they strain to see near things the rectl muscles contract and by flattening the eyeball produce the hypermetropic refraction. The problem of curing errors of refraction, therefore, is to induce the eyes to take it easy, and look at things without effort.

"This is accomplished by a system of eye education so simple that patients, when they are cured, proceed at once to cure their relatives and friends. Teachers have also used it successfully to prevent and cure myopia in their pupils. More than 1000 children with defective sight have regained normal vision by this means. In one class in which there had been 27 eye defectives, 25 were reported cured, while one truant and one incorrigible had become good students, because they were now able to study without pain.

"The fundamental principle of this new system of eye training is what Dr. Bates calls central fixation. The trouble with the civilized eye, he says, is that we use it as though it were a photographic camera. The camera can see everything which falls upon its sensitive plate equally well, but the human eye is not built that way. The retina has more nerve cells in the centre than anywhere else, and therefore is designed to see one point better than others in its field of vision. In other words, we see best in the direction in which we are looking. When we submit to this the eye is at rest and Dr. Bates asks us to believe, contrary to all previous testimony and experience on the subject, it can never tire, no matter how much it is used for near work or any other kind of work. It can work all day and all night, he says, and while the rest of the body will tire it will not. But when the eye attempts to see every point in its field of vision about as well as the central point, not only is its visual power lowered, but it is subjected to a severe strain, as any one can observe for himself by trying to see every part of any surface of four or five inches in extent, or even much less, equally well at one time. This strain Dr. Bates believes to be at the bottom of most eye troubles.

"Central fixation is attained by two methods, practice and rest, the latter coming first. To rest the eyes the patient is told to look at something black and then cover his eyes in such a way as to exclude the light and avoid pressure on the eyeballs. If he remembers the black perfectly, he will see black. Otherwise he may see all the colors of the rainbow, but usually sees gray. When one does succeed in seeing black the effect is very surprising. The vision is noticeably improved, though it may be only for a moment, and letters on the test card that one was unable to see before stand out clearly. The explanation offered for this phenomenon is that the eyes and brain are relaxed by seeing black, thus enabling the former to function normally. Incidentally if one has had any headache or pain in the eyes it will probably be gone. Whether the black is seen or remembered, the effect is similar, and as one cannot have the color always before the eyes, nor see with them closed, the person who wants to see normally must learn to remember black just as well with the eyes open as shut.

"The familiar Snellen eye chart, used by all oculists to test the eyes of their patients, is used as a basis for the practice of central fixation, the patient being directed to try to see one part of a letter better than another. The relief which this simple expedient gives to tired eyes is astonishing, and the smaller the letter selected for the purpose the greater it is.

"By means of this simple system of eye education Dr. Bates maintains that the organs of vision can be kept always in a normal condition. The remedy is not to close our schools and stop our printing presses and return to a primitive condition in which there was no astigmatism or short sight, but to practice the art of seeing perfectly for a few minutes every day."

Modern eye doctors state they have proved the lens changes shape for accommodation. Others state the eye and lens change shape. The Bates Method relaxes, returns to normal function all the eye muscles; outer oblique, recti, tear gland.... and inner; ciliary/lens, iris resulting in clear eyesight.

Shifting is combined with central-fixation; the central point, field moves with the eyes from part to part, point to point on objects and from object to object maintaining relaxation and perfect sight.

Seeing black is not mandatory when palming. Relaxation can be obtained by remembering, imagining a pleasant, happy thought, scenery, objects. Let the mind drift from one pleasant thought to another. Imagine in color, motion, clear. A river, field of grass, flowers, wind blowing the grass, leaves in the trees, sun shining...

BEATS ALL "MENTAL HEALING"

New York Physician Comes Forward With Really New Method for the Relief of Pain.

Dr. W. H. Bates, a well-known physician of New York, has discovered a new way to get rid of pain. It beats "mental healing" and other such methods hollow.

All you have to do to make the pain quit is to "see black." It is quite simple, but you must learn how.

Well, then, shut your eyes; cover them with the palms of your hands, so as to exclude all light, and presently you will see a perfect black. When the black is seen perfectly, a temporary, and perhaps a permanent, relief from pain always follows.

"By this means," says Doctor Bates, "surgical operations have been performed painlessly and teeth extracted without suffering. Distress from cold, heat, hunger, fatigue and even disease symptoms—such as fever, weakness and shock—have been relieved in this way. If soldiers could grasp the idea, not only suffering, but many deaths, might be prevented.

"A soldier in a trench full of water, if he can remember black perfectly, will not suffer from cold. He may succumb from weakness on the march, but will not feel fatigue. He may die of hemorrhage, but he will die painlessly. The method would also obviate the necessity for using morphine to relieve pain."

When once a person has been taught to see black, says Doctor Bates, he can easily learn to remember black at will. Merely to remember black will dismiss all pain.

Why not try it and see how it works?

BATES: "CURE OF IMPERFECT SIGHT"

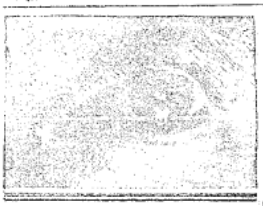
The Cure of Imperfect Sight by Treatment Without Glasses. By W. H. Bates, M. D. New York: Central Fixation Publishing Co. 1920.

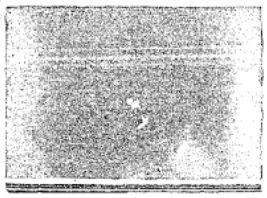
In this book, Doctor Bates presents a résumé of clinical observations and animal experiments which have led him to the conclusion that the accepted teaching about accommodation and errors of refraction is wrong. He believes that accommodation is controlled, not by the lens but by the muscles on the outside of the eyeball, and that errors of refraction (including presbyopia) are due to a functional derangement in the action of these muscles. Hence, he concludes that all errors of refraction (again including presbyopia) are preventable and curable.

This derangement in the action of the muscles he attributes to the influence of the mind, and a system of treatment designed to secure mental relaxation is presented. These methods are said not only to cure errors of refraction, but various other conditions long held to be incurable.

One chapter is devoted to the prevention and cure of imperfect sight in school children and a method is described which has been used in the Public Schools of New York, Rochester, Grand Forks, N. D., and other cities. The author states that this method has been the means of curing defects of vision in thousands of children and that it has also prevented the development of such defects, as was demonstrated by comparative statistics.

Has Nature Played Trick on Us? Are Our Eyes Fit Only for Tasks of Primitive Ancestors?





TWO REMARKABLE PICTURES WHICH IT REQUIRED TWO YEARS TO SECURE

Above, the Eye in Rest (distant vision). On the Right, Accommodation (near vision). Under the Magnifying Glass No Change Can Be Observed in the Size of the Two Images Reflecting an Electric Light, a Fact Upon Which Dr. Bates Bases His New Theory of Accommodation.

Spectacles May Be Banished by the Revolutionary Discovery of Dr. W. H. Bates, Who Holds That the "Helmholtz Experiment," Upon Which Recent Science Has Acted, Was at Fault, and That It Is the Eye Ball and Not the Pupil That Does the "Accommodating." (Lens)

By OLIVE MARSHALL

HAS nature played a trick on man? Has she let him progress to the present heights of modern civilization, only to have him discover that his eyes were not intended for any tasks but those which occupied his primitive ancestors? Many scientists have come to such a conclusion. They say that man's eye was constructed for distant vision, for sighting game in the forest, or fish deep in the stream, and it is impossible for it to stand the strain of the printed page, the artificial light, and above all, the "movie." More and more people each year need glasses, and there might seem to be no hope for the future. Nature, it has been maintained, simply has not developed the eye to meet the demands made upon it today.

So say most scientists—but not all. Voices of protest are raised against this indictment of Dame Nature. One significant voice is that of Dr. W. H. Bates of New York. "It is man who is at fault," says Dr. Bates. "He has accepted without question the idea of one man, the great scientist Helmholtz, concerning human sight, and for over sixty years practically all treatment of the eye has been based on this one scientist's theory."

Helmholtz set out to discover what happens in the eye when it looks at an object at the near-point. All anatomists knew that when the eye was at rest, parallel rays of light coming from distant objects were focussed exactly upon the retina at the back of the round eyeball. The question was, How did the convergent rays of light from near objects contrive to get themselves focussed exactly upon the same surface?

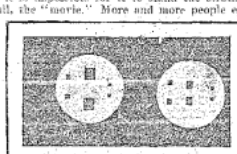


Diagram by Which Helmholtz Illustrated the Changes He Thought He Observed in Images Reflected from the Front of the Lens. A—Rest (distant vision); B—Accommodation (near vision); a—Images on Cornea; b—Images on Front of Lens; c—Images on Back of Lens. Middle Images in B Are Smaller Than in A and Have Approached Each Other.

How Helmholtz Solved the Problem.

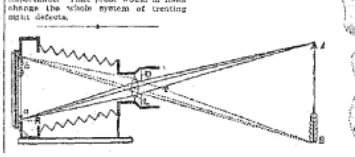
In the hope of solving this problem, Helmholtz began to study the images which are reflected from the two surfaces of the lens—front and back, and from the cornea when a small, bright light is held in front of and a little to one side of the eye. He easily convinced himself that no appreciable change took place in the corneal reflection and in the reflection from the back of the lens during changes of focus, because those images are very distinct and any such changes could easily be observed, if they took place. But the middle reflection, the one from the front of the lens, bothered him. It was very difficult to see this image, and sometimes he could not distinguish the form of the flame at all.

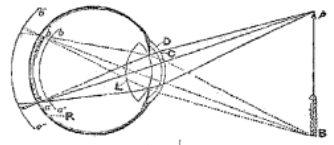
So he put two lights behind a screen having two rectangular openings, and arranged the whole so that the lights shone through those openings upon the cornea and lens, and formed two images upon each of the reflecting surfaces. He now noted the behavior of these images when the eye looked at a distant object and when it focussed for near vision (accommodation), and it seemed to him that in the latter case the two images on the front of the lens grew smaller and approached each other. From this he inferred that the lens became more convex during accommodation, because an image reflected from a convex surface is diminished in proportion to the convexity of that surface—as every one knows who has ever looked at the reflection of his own face from the back of a spoon.

Helmholtz appears to have been fully convinced of the correctness of his own observation, which he illustrated by the accompanying diagrams. But he was unable to find any satisfactory explanation of the way in which the supposed changes in the lens were brought about. Finally he concluded that the so-called ciliary muscle, by alternate contraction and relaxation, must change the shape of the lens; but he put forth this explanation merely as a theory, and explicitly stated that he considered it only "probable." Nevertheless, it is frequently stated today as a fact, and it is upon the diagrams shown here that all subsequent study of the problem of the power of the eye to change its focus has been based.

Discounting Theory of Accommodation.

Now comes a new scientist who says that Helmholtz did not see what he thought he saw, and that he was quite right in being doubtful about the way the lens changed its curvature—because he doesn't change at all. And modern science has the camera to back up its claims. Dr. Bates who not convinced that the accepted theory about accommodation was right, so he started experimenting for himself. Day after day for a whole year he worked, trying—by the method of Helmholtz—to get images on the front of the lens that were distinct enough to be photographed. Day after day he failed even to get an image clear enough to justify any conclusion as to its behavior during the changes in the focus of the eye. Then finally a special adjustment of a 1,000-watt electric light was discovered whereby very distinct images were obtained on the lens. A photograph of this image was taken when the eye was at rest and again during accommodation (vision at the near-point), and these pictures did not resemble Helmholtz's drawings at all. Instead, they showed absolutely no change. Evidently the lens was the same when the eye focussed on a near point as when it was at rest.





Above, the Principle of the Ordinary Camera Showing How the Rays A-B Pass to the Plate in an Inverted Form. On the Left, the Same Principle as Revealed by the Eye. C—Cornea. D—Iris of the Eye and Diaphragm of the Camera. L—Lens. R—Retina.

A further series of pictures of images reflected from the cornea and sclera (white of the eye), showed the changes that the lens photographs did not show. These indicated that the whole eyeball changes its shape when the focus is changed. Images on the cornea and the front of the sclera became smaller during accommodation, indicating that the eyeball had elongated, making the front more convex; but images on the side of the sclera became larger when the eye focussed for a near-point, indicating that this part of the eyeball had become flatter.

There had been other scientists before and up to the time of Helmholtz who believed that it was the eyeball and not the lens that changed its shape during changes of focus, but none of them could prove his theory. It remained for a man of our own time, with electricity and the camera at his disposal, to present the proof of the correctness of the idea.

Those observations confirmed conclusions which Dr. Bates had previously arrived at as a result of observations upon his patients, and experiments on animals, viz.: That the accepted theory of accommodation is wrong. It is not the lens, but the eyeball that changes when we change the focus of the eye. When we want to look at a near object, two muscles which form an almost complete ball around the eyeball contract and lengthen it. When we want to look at a distant object, these muscles are relaxed, and the ball resumes its original spherical shape. The periscope is the same as that which governs a camera.

To focus a near object on the plate, the camera is extended; while to focus a distant object, the lens is brought up close to the plate. So with the eye.

Muscular Control of Eyesight.

Of course, if this is true, it follows that all treatment of the eye based upon the old theories must be wrong. Dr. Bates has new methods of treating eye defects which are as original as his views of accommodation. He claims that all errors of refraction—nearsight, farsight, astigmatism and even old-age sight—are due to a mental strain resulting in imperfect functioning of the muscles on the outside of the eyeball. Nearsight is due to a persistent contraction of the muscles of accommodation; farsight, including old-sight, to a persistent contraction of another set of muscles running from the front backward; and astigmatism to the irregular action of those various sets of muscles.

The cure for all these conditions, Dr. Bates finds in relaxation. There is no need for drugs; above all, there is no need for glasses. By relaxation alone he has cured not only many cases of imperfect refraction, but many other abnormal conditions of the eye. In the attainment of relaxation he has discovered that the training of the memory and imagination helps greatly. Perfect imagination (or pictorization) means perfect relaxation and perfect sight; and when you have attained one, you have attained all three.

Dr. Bates's contention is indeed revolutionary. It must excite wide debate, first as to his primary contention, second as to the bearing of that contention upon the question of glasses. How far "accommodation" can be treated by consciousness, by non-mechanical or by drug treatment, is as certain to excite dispute as any other revolutionary proposition. But his experiments and his successes must furnish food for profound thought by the scientists and wide interest on the part of all who recognize the vital importance of any discovery relating to the eyes.

In fact, if Dr. Bates enforces new experiments upon those who have followed the Helmholtz theory without question and succeeds in demonstrating the elemental fact that it is not the lens of the eye but the camera bellows of the eye that changes its shape in accommodation, immediate disputes as to collateral questions will be of small importance. That proof would of itself change the whole system of treating sight defects.

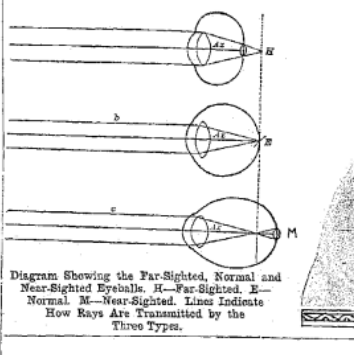
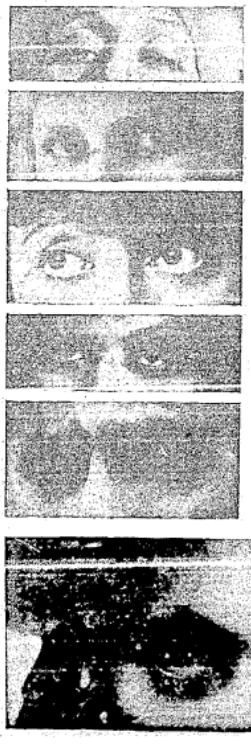


Diagram Showing the Far-Sighted, Normal and Near-Sighted Eyeballs. H—Far-Sighted. E—Normal. M—Near-Sighted. Lines Indicate How Rays Are Transmitted by the Three Types.

Various Types of Eyes Illustrating the Great Divergence in Superficial Structure as Science Meets Them in the Course of Its Study.



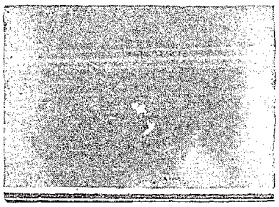
Modern eye doctors state the lens does change shape to produce accommodation. Other eye doctors, scientists state that the eye and lens change shape, together to produce accommodation (clear close vision) and un-accommodation (clear distant vision).

The lens might also move forward and backward as in a camera. Convergence, divergence also occur with accommodation, un-accommodation.

The pupil changes size when looking close, far, in light, dark and this also affects focus of light rays in the eye for perfect clear vision.

The Bates Method relaxes all the eye muscles, outer and inner resulting in correct eye muscle, eye function and clear vision.

Has Nature Played Trick on Us? Are Our Eyes Fit Only for Tasks of Primitive Ancestors?



TWO REMARKABLE PICTURES WHICH IT REQUIRED TWO YEARS TO SECURE

Above, the Eye in Rest (distant vision). On the Right, Accommodation (near vision). Under the Magnifying Glass No Change Can Be Observed in the Size of the Two Images Reflecting an Electric Light, a Fact Upon Which Dr. Bates Bases His New Theory of Accommodation.

Spectacles May Be Banished by the Revolutionary Discovery of Dr. W. H. Bates, Who Holds That the "Helmholtz Experiment," Upon Which Recent Science Has Acted, Was at Fault, and That It Is the Eye Ball and Not the Pupil That Does the "Accommodating."

By OLIVE MARSHALL

HAS nature played a trick on man? Has she let him progress to the present heights of modern civilization, only to have him discover that his eyes were not intended for any tasks but those which occupied his primitive ancestors? Many scientists have come to such a conclusion. They say that man's eye was constructed for distant vision, for sighting game in the forest, or fish deep in the stream, and it is impossible for it to stand the strain of the printed page, the artificial light, and above all, the "movie." More and more people each year need glasses, and there might seem to be no hope for the future. Nature, it has been maintained, simply has not developed the eye to meet the demands made upon it today.

So say most scientists—but not all. Voices of protest are raised against this indictment of Dame Nature. One significant voice is that of Dr. W. H. Bates of New York. "It is man who is at fault," says Dr. Bates. "He has accepted without question the idea of one man, the great scientist Helmholtz, concerning human sight, and for over sixty years practically all treatment of the eye has been based on this one scientist's theory."

Helmholtz set out to discover what happens in the eye when it looks at an object at the near-point. All anatomists knew that when the eye was at rest, parallel rays of light coming from distant objects were focussed exactly upon the retina at the back of the round eyeball. The question was, How did the convergent rays of light from near objects contrive to get themselves focussed exactly upon the same surface?

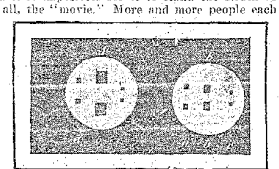


Diagram by Which Helmholtz Illustrated the Changes He Thought He Observed in Images Reflected from the Front of the Lens. A—Rest (distant vision); B—Accommodation (near vision); a—Images on Cornea; b—Images on Front of Lens; c—Images on Back of Lens. Middle Images in B Are Smaller Than in A and Have Approached Each Other.

How Helmholtz Solved the Problem.

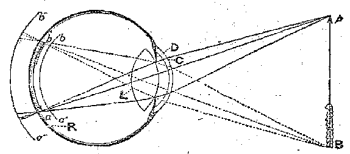
In the hope of solving this problem, Helmholtz began to study the images which are reflected from the two surfaces of the lens front and back, and from the cornea when a small, bright light is held in front of and a little to one side of the eye. He easily convinced himself that no appreciable change took place in the corneal reflection and in the reflection from the back of the lens during changes of vision, because these images are very distinct and any such changes could easily be observed, if they took place. But the middle reflection, the one from the front of the lens, bothered him. It was very difficult to see this image, and sometimes he could not distinguish the form of the flame at all.

So he put two lights behind a screen having two rectangular openings, and arranged the whole so that the lights shone through these openings upon the cornea and lens, and formed two images upon each of the reflecting surfaces. He now noted the behavior of these images when the eye looked at a distant object and when it focussed for near vision (accommodation), and it seemed to him that in the latter case the two images on the front of the lens grew smaller and approached each other. From this he inferred that the lens became more convex during accommodation, because an image reflected from a convex surface is diminished in proportion to the convexity of that surface—as every one knows who has ever looked at the reflection of his own face from the back of a spoon.

Helmholtz appears to have been fully convinced of the correctness of his own observation, which he illustrated by the accompanying diagrams. But he was unable to find any satisfactory explanation of the way in which the supposed changes in the lens were brought about. Finally he concluded that the so-called ciliary muscle, by alternate contraction and relaxation, must change the shape of the lens; but he put forth this explanation merely as a theory, and explicitly stated that he considered it only "probable." Nevertheless, it is frequently stated today as a fact, and it upon the diagrams shown here that all subsequent study of the problem of the power of the eye to change its focus has been based.

Discounting Theory of Accommodation.

Now comes a new scientist who says that Helmholtz did not see what he thought he saw, and that he was quite right in being doubtful about the way the lens changed its curvature—because it doesn't change at all. And modern science has the camera to back up its claims. Dr. Bates was not convinced that the accepted theory about accommodation was right, so he started experimenting for himself. Day after day for a whole year he worked, trying—by the method of Helmholtz—to get images on the front of the lens that were distinct enough to be photographed. Day after day he failed even to get an image clear enough to justify any conclusion as to its behavior during the changes in the focus of the eye. Then finally a special adjustment of a 1,000-watt electric light was discovered whereby very distinct images were obtained on the lens. A photograph of this image was taken when the eye was at rest and again during accommodation (vision at the near-point), and these pictures did not resemble Helmholtz's drawings at all. Instead, they showed absolutely no change. Evidently the lens was the same when the eye focussed on a near point as when it was at rest.



Above, the Principle of the Ordinary Camera Showing How the Rays A-B Pass to the Plate in an Inverted Form. On the Left, the Same Principle as Revealed by the Eye. C—Cornea. D—Iris of the Eye and Diaphragm of the Camera. L—Lens. R—Retina.

A further series of pictures of images reflected from the cornea and sclera (white of the eye), showed the changes that the lens photographs did not show. These indicated that the whole eyeball changes its shape when the focus is changed. Images on the cornea and the front of the sclera become smaller during accommodation, indicating that the eyeball had elongated, making the front more convex; but images on the side of the sclera become larger when the eye focussed for a near-point, indicating that this part of the eyeball had become flatter.

There had been other scientists before and up to the time of Helmholtz who believed that it was the eyeball and not the lens that changed its shape during changes of focus, but none of them could prove his theory. It remained for a man of our own time, with electricity and the camera at his disposal, to present the proof of the correctness of the idea.

These observations confirmed conclusions which Dr. Bates had previously arrived at as a result of observations upon his patients, and experiments on animals, viz.: That the accepted theory of accommodation is wrong. It is not the lens, but the eyeball that changes when we change the focus of the eye. When we want to look at a near object, two muscles which form an almost complete belt around the eyeball contract and lengthen it. When we want to look at a distant object, these muscles are relaxed, and the ball resumes its original spherical shape. The principle is the same as that which governs a camera.

To focus a near object on the plate, the camera is extended; while to focus a distant object, the lens is brought up close to the plate. So with the eye.

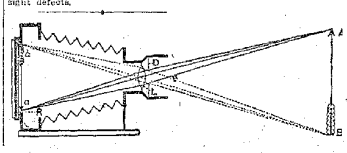
Muscular Control of Eyesight.

Of course, if this is true, it follows that all treatment of the eye based upon the old theories must be wrong. Dr. Bates has new methods of treating eye defects which are as original as his views of accommodation. He claims that all errors of refraction—nearsight, farsight, astigmatism and even old-age sight—are due to a mental strain resulting in imperfect functioning of the muscles on the outside of the eyeball. Shortsight is due to a persistent contraction of the muscles of accommodation; farsight, including old-sight, to a persistent contraction of another set of muscles running from the front backward; and astigmatism to the irregular action of those various sets of muscles.

The cure for all these conditions, Dr. Bates finds in relaxation. There is no need for drugs; above all, there is no need for glasses. By relaxation alone he has cured not only many cases of imperfect refraction, but many other abnormal conditions of the eye. In the attainment of relaxation he has discovered that the training of the memory and imagination helps greatly. Perfect imagination (or picturization) means perfect relaxation and perfect sight; and when you have attained one, you have attained all three.

Dr. Bates's contention is indeed revolutionary. It must excite wide debate, first as to his primary contention, second as to the bearing of that contention upon the question of glasses. How far "accommodation" can be treated by consciousness, by non-mechanical or by drug treatment, is as certain to excite dispute as any other revolutionary proposition. But his experiments and big successes must furnish food for profound thought by the scientists and wide interest on the part of all who recognize the vital importance of any discovery relating to the eyes.

In fact, if Dr. Bates enforces new experiments upon those who have followed the Helmholtz theory without question and succeeds in demonstrating the elemental fact that it is not the lens of the eye but the camera, bellows of the eye that changes its shape in accommodation, immediate disputes as to collateral questions will be of small importance. That proof would of itself change the whole system of treating sight defects.



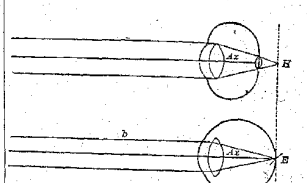
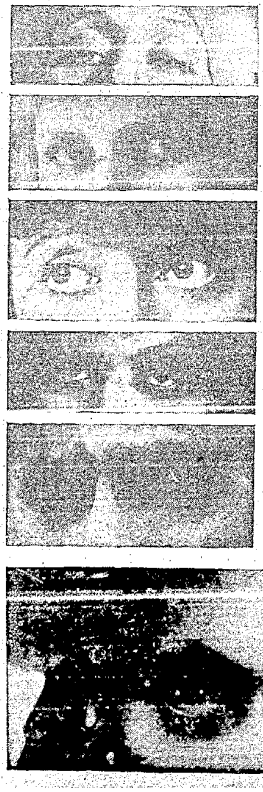


Diagram Showing the Far-Sighted, Normal and Near-Sighted Eyeballs. H—Far-Sighted. E—Normal. M—Near-Sighted. Lines Indicate How Rays Are Transmitted by the Three Types.

Various Types of Eyes Illustrating the Great Divergence in Superficial Structure as Science Meets Them in the Course of Its Study.



Causes of Fainting Spells

FAINTING is a sudden weakness or loss of consciousness owing to a transitory failure in the circulation of the blood and the consequent anaemia of the brain. In an attack of fainting the person become dizzy and sometimes nauseated, his sight fails, his face is pale and often covered with a cold perspiration, his pulse is rapid and very feeble, and finally the sufferer falls and loses consciousness. In a few minutes consciousness gradually returns, and, after a brief moment of confusion, full consciousness and strength return and recovery is complete. Because a young woman does not fall heavily but chooses a "soft spot" and sinks gently into it is no reason for believing that she is shamming—feigning instead of fainting—for there are always premonitory symptoms that a person who has once fainted recognizes as a warning.

When fainting occurs in young adults it is not necessarily cause for alarm, physicians say, unless the person is known to have disease of the heart or the attacks recur with frequency.

Since the faint is owing to lack of blood in the brain, the first thing to do is to place the sufferer at full length with his head lower than his body if possible, and then to loosen the clothing about his waist and neck in order to allow for free circulation. Sprinkling his face with cold water and bathing the temples freely with eau de cologne will often help. If the patient is able to swallow, give him half a teaspoonful of aromatic spirits of ammonia in half a glass of water, or a cupful of hot black coffee. The windows should be opened and air brought to the patient by fanning. Smelling salts should be used very cautiously, as too strong a whiff would be far from beneficial.

If these measures do not prevail in a short time, summon a physician, for the condition may prove to be much more serious than a faint.

OL' BILL—By Captain Bruce Bairnsfather

(Copyright, 1920, by the Bell Syndicate, Inc.)

Ol' Bill Has Practically Decided to Give Up Bringing Home Boozing Dowser from the Office for Dimples to Read

Recreation For Your Eyes

By Frederic J. Haskin

New York City—Last summer while standing near a wire fence in the midst of a thunderstorm, a 14-year-old boy was stunned by lightning. A common enough occurrence, you may think, but here was something most uncommon about this one. The boy had always had very poor vision — was nearly blind, in fact—but when he recovered consciousness after the lightning bolt and looked about for his glasses, he found that he did not need them. He could see perfectly!

Haskin

This case gives support to the new ophthalmology, which declares that the eye is a perfect instrument and that if we only learn to use it perfectly we can all throw away our glasses. Myopia, hypermetropia and astigmatism are all defects caused by eye-strain, it says, and not by diseased or imperfect visual organs. They are therefore curable by proper methods of relaxation, whereas the old ophthalmology held that they were incurable, being caused by imperfect apparatus, defective from birth.

According to Dr. William H. Bates, the father of the new ophthalmology, who has examined and treated the eyes of hundreds of thousands of patients at his clinic at the Harlem Hospital here in New York, seeing as a passive performance, and with perfect vision there is not the least effort. It is only when we strain to see at distance that we become myopic or near-sighted, and when we strain to see at close quarters that we become hypermetropic or far-sighted. If we would only relax the eyes and not put forth such tremendous effort, we would find our vision greatly improved.

But how to relax the eyes? Dr. Bates prescribes "remembering black" as one of the most efficacious methods. Close your eyes, put the palms of your hands across them, being careful to exert no pressure on the eyeballs, and remember black. Think of the blackest thing you know—a man's silk hat, a totally black cat or a black velour curtain. This sounds easy, but as a matter of fact it is quite the opposite. Few people can imagine perfectly without mental strain; if they could they would not have defective vision. For one of the strange discoveries of the new ophthalmology is that if you can remember perfectly, or imagine perfectly, you can see perfectly.

REMEMBER BLACK

Some people must practice for a long time before they can remember black without at the same time thinking of other colors, and it is almost impossible to hold the image of any one black object on the mind for more than a couple of seconds. It is therefore best not to dwell upon one object but to skip from one black article to another—shoes, coat, umbrella, muffler, cat, curtain, etc.

When you can remember black perfectly with your eyes closed, you must learn to do so with your eyes open. You may next be asked to remember the whiteness of snow with the sun shining on it, after which you are to look at a card of equal whiteness in order to see a very small and very black "o" or perhaps merely a period. When you look at the test card again you will doubtless be surprised to find that you can read the bottom line, which formerly was only a blur.

It is simply a matter of relaxation. The boy who was stunned by lightning had the process done for him. Dr. Bates does not know the boy and he is unable to form any definite opinion without having a complete history of the case, but it is possible, he thinks, that the lightning stroke and the boy's subsequent unconsciousness brought about a relaxed condition of the eyes which relieved them of their habitual strain and produced normal vision as if by a miracle.

Dr. Bates has written a book on the correction of imperfect vision without glasses in which he describes many patients who were able to discard their glasses in periods ranging from hours to weeks. Some felt immediate relief after a twenty minute period of relaxation. Others had to keep it up for two or three ten-minute periods each day over a long period. One man, who had always suffered from defective vision and who had worn glasses since he was a boy, devoted one entire day to the relaxation process, sitting quietly in a darkened room and languidly summoning a long procession of black objects to mind. At the end of the day he was amazed to find that he could see perfectly without his horn-rimmed spectacles.

"Ophthalmologists tell us that the visual organ of man was never intended for the uses to which it is now put," Dr. Bates explains in his book. "Long before there were any schools or printing presses, electric lights or moving pictures, it was complete. In those days it served the need of the human animal perfectly. Man was a hunter, a herdsman a farmer, a fighter. He needed we are told, mainly distant vision, and since the eye at rest is adjusted for distant vision, sight is supposed to have been ordinarily as passive as the perception of sound, requiring no muscular action whatever.

CIVILIZATION INJURES EYES

"While primitive man appears to have suffered but little from defects of vision, it is estimated that of persons over 21 living under civilized conditions, 9 out of every 10 have imperfect sight, and as the age increases the proportion increases until at 40 it is almost impossible to find a person free from visual defects. Statistics of the army show this conclusively."

Dr. Bates examines on an average of 30,000 pairs of eyes a year at the New York Eye and Ear Infirmary and other institutions. "In this work," he says, "I noticed many cases in which errors of refraction either recovered spontaneously or changed their form and I was unable either to ignore them or to satisfy myself with the orthodox explanations. In course of time I discovered that myopia and hypermetropia like astigmatism could be produced at will; that myopia was not as we have long believed associated with the use of the eyes at the near point but with a certadjox g-(0 near point but with a strain to see distant objects strain at the near-point being associated with hypermetropia; that no error of refraction was ever a constant condition and that the lower degrees of refractive error were curable while higher degrees could be improved.

"Finally after a series of observations upon the eyes of human beings and animals I convinced both myself and others that the lens is not a factor in accommodation and that the adjustment necessary for vision at different distances is effected in the eye, precisely as it is in the camera, by a change in the length of the organ, this alteration being brought about by the action of the muscles on the outside of the globe."

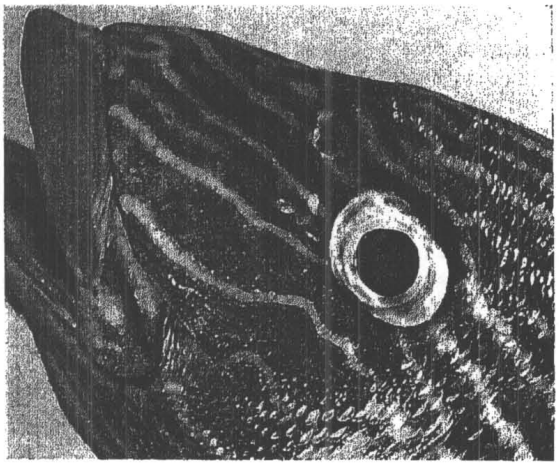
Heretofore, the theory has been that the shape of the eyeball controlled the sight. A normal eye was supposed to remain normal whereas it is constantly being demonstrated that normal vision is often impaired.

"In the thirty years I have devoted to the study of refraction," Dr. Bates declares, "I have found few people who could maintain perfect sight for more than a few minutes at a time even in the most favorable conditions. Similarly, I have found no eyes with continuous or unchanging errors of refraction, all persons with errors of refraction having at frequent intervals during the day and night moments of normal vision, when their myopia, hypermetropia or astigmatism wholly disappears. The form of the error also changes, myopia even changing into hypermetropia and one form of astigmatism into another."

This new ophthalmic theory now forms the basis of the work of a number of prominent eye specialists, and at least one New York hospital has a gymnasium for the eyes. Instead of being handed crutches in the form of glasses, the patients of this hospital are given a course in eye muscle development and relaxation, just as Indian clubs and dumb-bells are given to people in need of greater chest expansion.

Iowa City Press-Citizen and Appleton Post-Crescent. Dec., 24, 1921. Page 4.

Bulletin of the New York Zoological Society. Nov 1914. 1170-3.



YELLOW GRUNT
The pupil is nearly round.

FISHES' EYES.

By W. H. Bates, M.D.
(Photographs by Elwin R. Sanborn.)

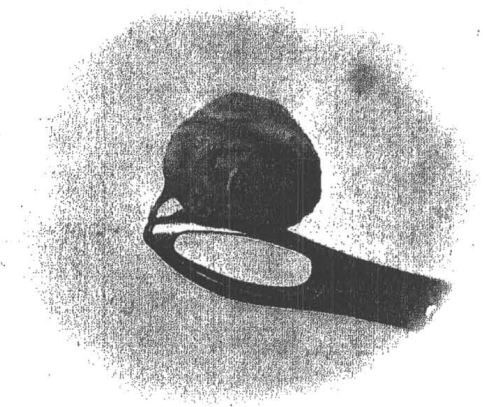
THE Aquarium is one of the show places of New York. Here are gathered several thousand fishes so arranged that they can be readily inspected while swimming in the tanks. The crowds of people that visit the place daily, testify to the fact that here is something worth seeing.

Some children were taken to the Aquarium and were asked to tell what they saw of the eyes of the fish. One boy eleven years old, said, "the pike has an eyeball shaped like an egg and their eyes seemed to be staring at you when you looked at them." "The muskallunge has eyes which go in and out; they are bright with a yellow ring around them." The rainbow trout appeared to him to have an eyeball shaped something like a square, the eyes of the yellow perch bulged at the top. He noted the turquoise blue of the eye of the red hind. Both he and his sister, aged seven, after two hours did not want to leave.

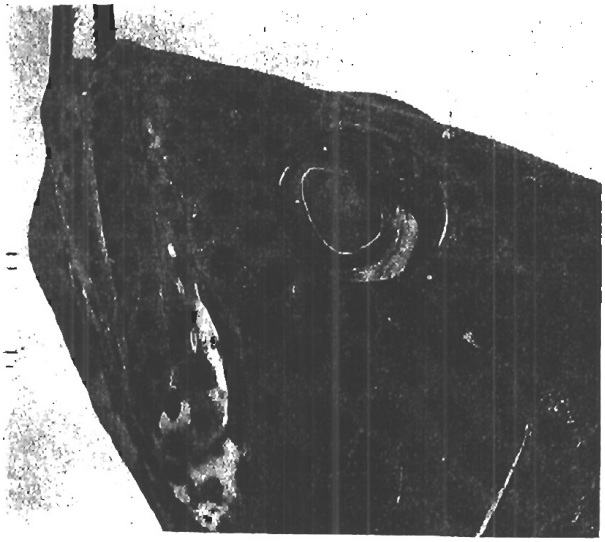
The eyes of the fish are in constant use except when they are asleep. They move up, down, to the right or left and rotate. In some fish these movements are quite marked. Fish have large eyes relatively to man. The width of the eyeball from side to side, is usually much greater than its depth. A fish ten inches long usually has eyeballs about one-half of an inch long, while a man seventy inches tall has spherical eyeballs about one inch long. One may say that the eye of a fish is one-twentieth of its length, while that of a man is occasionally only one-sixtieth or one seventieth of his height. However, the black grouper has very large eyes. In one specimen three feet long, the eyes were nearly two inches wide. A nurse shark of about the same length had eyes less than one-quarter of an inch wide. Eels four feet long had eyes as small as those of the shark.

My first impression of the fish seen in the tanks of the New York Aquarium was that their eyes seemed very open. Why? After investigation it was found that most of them had no eyelids. As their eyes need protection, was there anything else to save them from injury? Most fish have their eyes protected by a slimy material. The eyes of the red hind, yellow grunt and others have a transparent skin over the front part of their eyes, which is as thick as the skin of the fish or as the eyelids of some animals which live on the land. In the herring, this transparent skin covers only a part of the eye. Exposure to the air was soon followed by a cloudiness of the transparent coat of the eye so that in a few minutes, or less, the interior of the eye could not be seen with an instrument called the opthalmoscope. The puffer, or swell fish, living in salt water, has eyelids which cover the eyeball when closed. The lower eyelid is much larger than the upper, being the reverse of the condition found in man, whose upper lid is larger than the lower.

Mr. L. L. Mowbray, of the Aquarium staff, suggested that the puffer needed eyelids for the protection of its eyes because of its habit of burrowing in the sand at the bottom of the water.



YELLOW GRUNT
Enucleated eyeball held by forceps. The skin covering the front of the eyeball has not been removed.



RED HIND

Note the pear shaped pupil. The outer skin of the eyeball is pigmented above, transparent where it passes over the cornea and pupil and becomes opaque and less pigmented below.

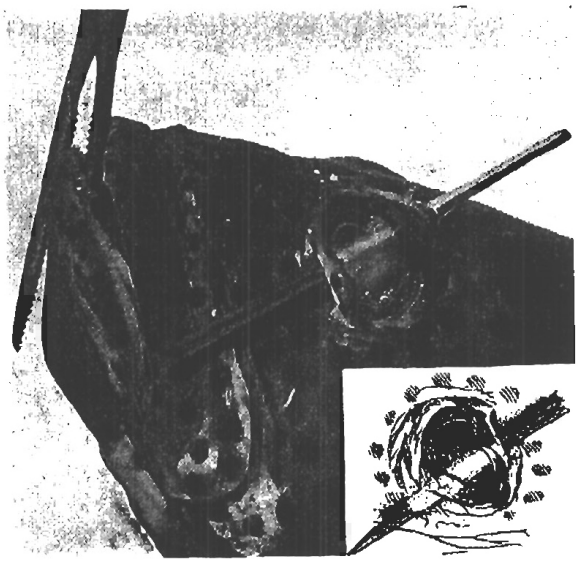
The colored portion of the eye, the iris, is usually yellow in color. However, one found fish with the iris of different colors. In the center appears the black part called the pupil, usually round, as in man; but, fish were found whose pupils were pear-shaped, triangular, oval and pointed at each end. The size of the pupil does not appear to change very much on exposure to a bright light or as rapidly as does the pupil of most air-breathing animals. When the light comes from behind the observer, the interior of the eyes of the fish show beautiful colors; shades of red, yellow, blue and green. Many visitors at the Aquarium were entertained for a long time by the wonderful variety and kaleidoscopic changes of colors in the eyes of the fish. Dr. C. H. Townsend has published in one of the reports of the Zoological Society a valuable and interesting paper on the changes in the color of fish.

Have Fish Good Eyesight?

The men connected with the Aquarium have told me some interesting stories of their wonderful power of vision; and, one can believe that fish do see well when they avoid obstruction in their paths while darting rapidly through the water.

The object of the study of fishes' eyes was to find out the cause of near-sight and the need of glasses acquired by school children. The facts learned were of great practical value. One theory of the cause of myopia or near-sight was that muscle inside the eye, called the ciliary muscle, produced near sightedness. This theory was not the truth in the case of fish, because they have no ciliary muscle. Another theory was that the near use of the eyes caused myopia or near-sight. This theory did not apply to fish because myopia or near-sight was not found in fish like eels that habitually use their eye for near objects. Near-sight or myopia was produced in fish by the action of two muscles outside of the eyeball, called the superior and inferior oblique. They are so arranged about the eyeball that they form a nearly complete belt. When these muscles contract, the belt is tightened and consequently the eyeball is squeezed out of its normal shape, just as one would change the shape of a hollow rubber ball by squeezing it when held in the hand. The line or axis of vision becomes elongated. The elongated eyeball like the photographic camera with the bellows elongated is focussed for near objects.

With the aid of an instrument called the retinoscope, which reflects the beam of an electric light into the pupils of the eyes of the fish, it was determined positively that all the fish examined while they were swimming in the tanks, several hundred individuals of many species, were neither near-sighted nor did they have astigmatism. Their eyes were nearly normal and were usually focussed accurately to see distant objects. The eyes of decapitated or dead

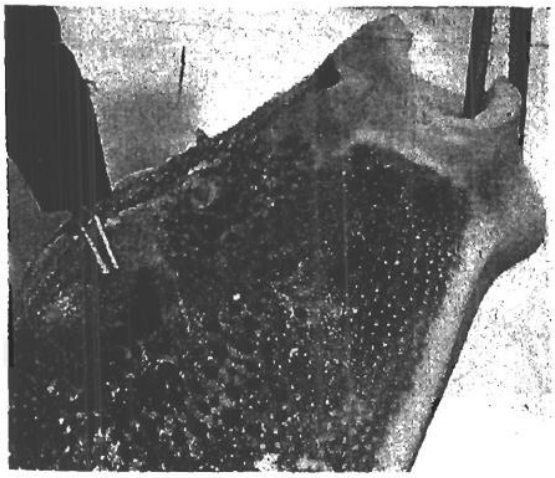


RED HIND

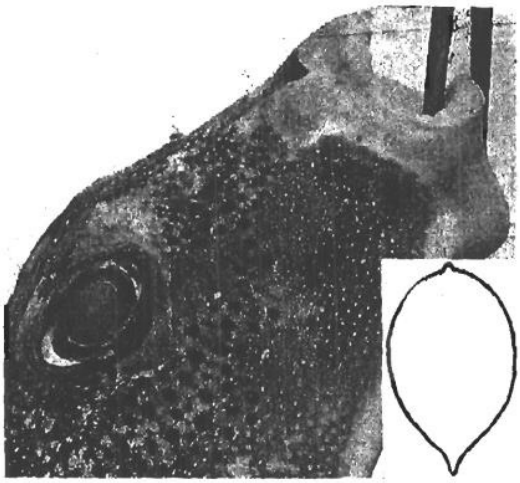
A probe has been inserted between the outer skin of the eyeball and the globe. A part of the pupil can be seen.

Diagram—Red hind showing the transparent membrane covering the front of the eye with a probe beneath it. Note the pear shaped pupil.

Experiments proving the oblique outer eye muscles can change the focus of light rays in the eye.



PUFFER
The eyelids are closed by electrical stimulation.



PUFFER
The eye is open. Note the oval pupil.
Diagram—The shape of the pupil of the eye of the Puffer.

fish were normal, as were the eyes of fish that were asleep from the effects of ether. When examined out of the water or in the air, the eyes were the same as when the fish were immersed; but, in a short time, less than a minute, one could not see the interior of their eyes. Good photographs of the eyes could only be obtained while the fish were immersed. The fact that fish are not near-sighted should be emphasized because some writers have stated that fish have their eyes focussed for near objects most of the time. Fish, while able to see, or to focus their eyes correctly for distant objects, are also able to change their focus and see near objects. Some fish were observed with the aid of the retinoscope that had their eyes properly focussed on objects as close as four inches or even less.

How do Fishes Change the Focus of Their Eyes.

Fishes' eyes are adjusted to see near objects by the squeeze or contraction of the two oblique muscles on the outside of their eyeballs. The squeeze of the oblique muscles makes the eyeballs longer, the condition found in near-sight. To see distant objects accurately, these muscles relaxed, which permitted the eyes to resume their normal shape. The following experiment demonstrates that the accommodation or the near focus of fishes' eyes is produced by the action of the oblique muscles and not by the action of the ciliary or any other eye muscle:

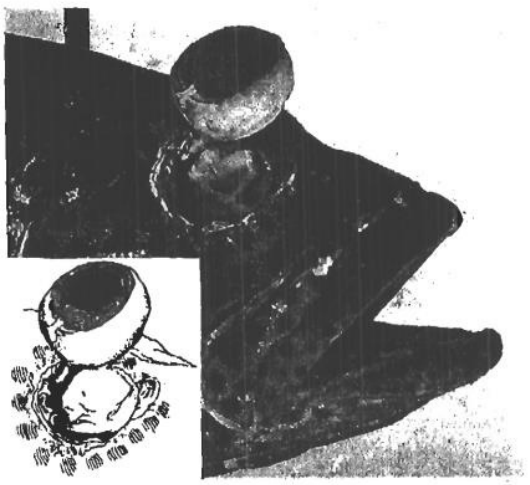
1. In the beginning the eye of a normal fish was examined.

2. By means of electrical stimulation applied to the eyeball or its neighborhood, in most fish their focus was changed from distant to near objects.

3. One of the muscles of the eye called the superior oblique, was cut, which produced no change in the focus of the eye.

4. Electrical stimulation now did not produce any change in the focus. It did not accommodate.

5. The muscle which had been cut was now re-united with a thread, sewed together, with-

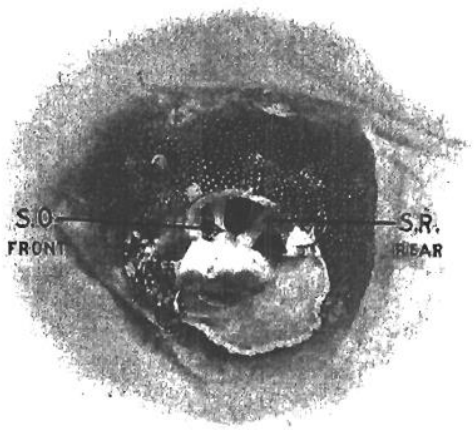


RED HIND
The outer skin of the eyeball has been peeled off and the eye muscles removed. The eyeball is held only by the optic nerve which appears as a white cord.
Diagram—Red hind, right eye with muscles removed and skin over the front of the eye peeled off. Note the shape of the eyeball, wider from side to side than at the optic axis.

PUFFER

i. o. Inferior Oblique, one of the two muscles of accommodation.

i. r. Inferior Rectus, the muscle which turns the eyeball downwards.



PUFFER

s. o. Superior Oblique, one of the two muscles of accommodation.

s. r. Superior Rectus, the muscle which turns the eyeball upwards.

out producing any change in the focus of the eyes of the fish.

6. Electrical stimulation now changed the focus from distant to near objects, as it did in the beginning.

It was interesting to observe that in those fish which did not have two oblique muscles, electrical stimulation failed to change the focus of their eyes from the distance to a near point. In one, the dog fish, with one oblique muscle, accommodation or near focus was not produced by electrical stimulation; but, after the place of the absent muscle was supplied by a thread of silk, then the focus of dog fish's eyes was changed to a near point when they were stimulated with electricity. After the oblique muscles were removed from the eye of a fish and when the eye had healed, some weeks later, near focus or accommodation could not be produced by electrical stimulation.

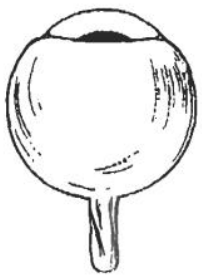


DIAGRAM OF HUMAN EYE

One inch long from a person, 60 inches tall. Note the nearly spherical shape. The optic nerve entrance is at the inner side.

In another series of experiments, the lens of a fish's eye was removed. A pearl roach six inches long was examined. The eyes were not near-sighted. Electrical stimulation produced considerable change and the eyes were focussed for a near point. The lens of the eye was pushed to one side of the axis of vision, when the eye became very far-sighted. Electrical stimulation of the eye now produced marked accommodation. This experiment confirmed others that the lens was not necessary to change the focus from distant objects to those which were near. While I was otherwise engaged, Dr. C. Barnert performed the same experiment successfully on the eye of a carp. He pushed the lens to one side, applied the electric current, and produced near-sight or accommodation in a few minutes, all without assistance. Electrical stimulation produced as much accommodation after the removal of the lens as before. The fact that accommodation in the eyes of fish is not produced by the action of the lens inside of the eyes, but is accomplished by the two oblique muscles outside of the eyes, is one of great practical value. The investigations further showed that fish could be made near-sighted, far-sighted or astigmatic by various operations upon the oblique muscles.

Of what value was the study of fishes' eyes to people with poor sight wearing glasses? In brief, the *cause* of the need of glasses was learned and it suggested treatment successful in relieving near-sight, far-sight, astigmatism and presbyopia or old age sight without glasses.

New York Medical Journal. 3 Feb 1917. 200-202

BLINDNESS RELIEVED BY A NEW METHOD OF TREATMENT.

Report of a Case.

By William H. Bates, M. D.,
New York.

A woman, fifty-four years of age, was first seen by me on May 9, 1915. Her son, who guided her into the office, stated that his mother had been "going blind" for a long time; that she could not see to find her way about the house; that she was unable to see the faces of people around her, and that she could not attend social gatherings with comfort. When out of doors she required the services of an attendant because of her inability to see passing people, obstructions on the sidewalk, or the curbstones or vehicles at street crossings.

The patient's husband, a banker, and a man of intelligence and accurate observation, gave me the history of her progressive loss of sight. During the past twenty-five years he had consulted numerous oculists in various parts of the United States, each of whom had pronounced her condition incurable.

I am indebted to G. de Wayne Hallet, M. D., of New York, for the following record of the patient's condition when she was under his care:

July 7, 1910. The patient gave a history of failing vision for twenty years, first in the right eye and later in the left. The patient stated that the vision is slightly worse in the left eye than it was two years ago. She said: "Everything is in a mist."

Right vision, fingers counted at two feet. Left vision, 15/200.

This is a case of old neuroretinitis in each eye, a few bloodvessels left, but for the most part only white lines extend off into the retina in place of old vessels. She has also choroiditis disseminata in both eyes.

℞ Syr. acidi hydriodici, 3i once each day.

July 22, 1910. To read she has used a strong hand magnifying glass besides her spectacles. When tested she read Jaeger No. 2 with +10.00 D. S. with the left eye only and she likes it. This glass was prescribed for the left eye.

September 21, 1911. Left vision, 10/200. Ordered for near vision, +12.00 D. S.

Cocaine was used in each eye to dilate the pupil in order to examine the fundus. Can see no change since the last examination.

Treatment: Continue the use of the hydriodic acid.

Following this period of observation by Doctor Hallet, the patient consulted other physicians as stated, always being given an unfavorable prognosis.

The patient was treated by me for the following conditions: incipient cataract; vitreous, cloudy with floating bodies; neuritis, with partial atrophy of the optic nerves; retinitis, with obliteration of many bloodvessels; choroiditis disseminata; glaucoma of the left eye; connective tissue in the anterior chamber of the left eye, obscuring the iris and pupil; functional myopia; functional divergent and vertical squint.

The vision of the left eye, on May 9, 1915, was 5/200, field contracted. This was reduced to the perception of light, two days later, by an attack of acute glaucoma. Miotics, eserine, pilocarpine eye drops failed to relieve the tension and pain after three days; since then they have not been used.

With the assistance of Dr. C. Barnert, an iridectomy was performed. The pain and tension were relieved for a time, but the vision was not improved. Hemorrhages into the anterior chamber occurred on different days during the following week. A mass of connective tissue replaced the blood clots in the anterior chamber, and was large enough to obscure the iris and pupil. Dionin, ten per cent. solution, was instilled six times daily, and the powder once daily in the left eye only. The solution of dionin is still being used in the left eye only.

Later the patient had a number of mild recurrent attacks of glaucoma in the left eye, with pain and increased tension. After three months the tension remained normal. The tension of the right eye subsequently was increased at intervals, always subsiding at once after central fixation was obtained.

My experience with this case, and with others of various degrees of severity, has convinced me that the value of central fixation in the treatment of acute, chronic, and absolute glaucoma should be emphasized. Central fixation, as utilized by me, has relieved the symptom of glaucoma after operative and other treatment had failed. The value of the method employed in this case has been demonstrated in many other cases, and in various conditions other than glaucoma, of organic as well as of functional character.

FIG. 1.—Nose pressure, with the eyes closed, the patient imagining or remembering the black period.

The treatment described by me (1) with certain modifications, was employed in the case here cited, and was found beneficial, as will be seen. Memory and the imagination were useful. A small black spot or period on the Snellen card was imagined. When the sight was poor, at the beginning of the treatment, the period imagined was imperfect. The problem for this patient was to imagine the period as perfectly black and stationary at all distances; then to be conscious of seeing a part or all of a letter without losing the period. The memory or imagination of a black period, at all times and in all places, secured for this patient unusual benefit.

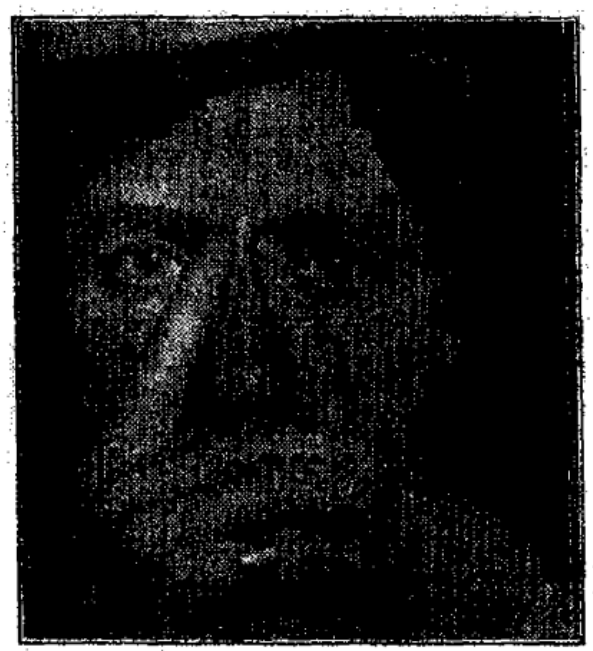


FIG. 2.—Nose pressure, with the eyes open, the patient regarding the Snellen test card.

(No pressure placed on the eye)

It was explained to her that by "central fixation" is meant a passive, receptive, or relaxed condition of the eyes and brain. When the mind is sufficiently at rest the eye sees best the point fixed—in other words, the eye sees best what it is looking at. With the passive, receptive, relaxed condition of the eyes and mind, or with the absence of strain or effort, as manifested by central fixation, the sight was always improved. The myopic refraction produced by an effort to see distant objects and the hypermetropic refraction produced by an effort to see near, were absent when the eyes became relaxed and central fixation was manifest. Color blindness, contracted field, pain and fatigue, and photophobia were also materially benefited or cured. The objective symptoms of increased intraocular tension, squint, strain of the muscles of the face, twitching of the eyelids and eyeballs, all disappeared instantaneously when the patient was conscious of central fixation. The organic lesions were seen to improve. With the bloodvessels the changes were slow; but with the

(Imagining the period stationary is incorrect, it causes the patient unclear vision. The period must move, show oppositional movement, 'the Swing' as the eye shifts on it point to point, left and right, top and bottom and in any direction. The swinging movement of the period will be in the opposite direction of the eyes movement.

Later Bates describes how the period must move 'swing' as a result of the shifting of the eye when shifting on the period in the imagination with eyes closed or with the eyes open looking at a period or imagining shifting on a period with the eyes open.

For the period to remain stationary the eyes must be immobile, staring and this causes strain, unclear vision.)

cloudiness of the lens, central fixation was followed immediately by an increased transparency readily demonstrated by the ophthalmoscope.

In six days the sight of the right eye had improved to more than one tenth of the normal. Later,

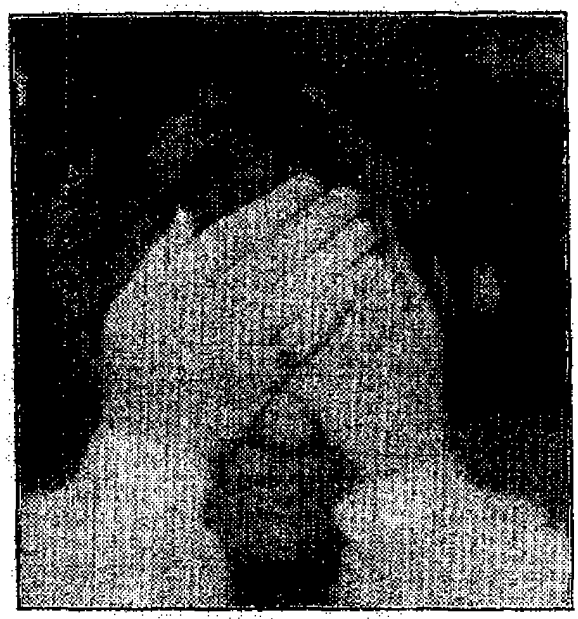


FIG. 3.—"Palming"—the most successful method of obtaining central fixation. The patient is seeing black, with the aid of the imagination or memory of a black object.

the patient became able to travel on the subway alone, to shop in the neighborhood of her home, to read and write letters, and to read books, magazines, and newspapers. She became able to see the color of the eyes of her husband, children, and friends, which she had never been able to do before in her life. Her sight at night also improved, so that she saw the lights across the Hudson River, stationary and moving, more than a mile away. She won first prize at auction bridge twice, enjoyed theatres and moving picture shows, went to parties, receptions, dinners, and other social functions, and had a good time.

January 17, 1916. Patient went out of doors alone or without an attendant, and took a walk on Riverside Drive.

February 23, 1916. She is beginning to distinguish colors. Without an attendant she walked alone from her home at 142d Street and Broadway to the subway station at 145th Street, thence went by train to the Grand Central Station, walked over to the uptown side, and returned home on the train.

March 3, 1916. Went to the theatre and enjoyed the play.

March 6, 1916. Plays cards. Tells the time with the aid of her small watch without glasses.

April 1, 1916. She won first prize at an auction bridge card party. With the eyes closed she believes that she can now imagine as well with the left eye as with the right, indicating an improved condition of the left retina.

April 6, 1916. Won second prize at auction bridge, 140 players.

April 18, 1916. Read a column of the *New York Times*, news section.

She sees the Hudson River boats, and houses and trees across the river. Lights on the boats were seen at night, but not the lights on the opposite shore.

April 28, 1916. The patient is beginning to read diamond type, Jaeger No. 1, at six inches, using two of her fingers as a pointer.

May 6, 1916. The new moon and the stars were seen for the first time.

May 15, 1916. The lights across the Hudson River, more than a mile distant, were seen when the room occupied by the patient was dark or the lights turned off. (Later, June 21, she was able to see the distant lights with the room occupied and well lighted.)

May 20, 1916. Patient was able consciously, at will, to produce the illusion of seeing one object as two or more—monocular polyopia, by a strain, eccentric fixation.

June 21, 1916. Did some sewing with a split needle. R., 14/30, without the consciousness of the black period. She runs short distances on the street without difficulty.

July 1, 1916. The patient writes letters without glasses better than with them, because she finds her sight confused with glasses. The imagination or the memory of a perfectly black period relieves or prevents the pain which is usually produced by the instillation of the dionin powder into the left eye.

August 1, 1916. With the right eye a line of diamond type was read in five minutes, without glasses and without the aid of a pointer.

August 8, 1916. The left eye distinguished one letter of diamond type for the first time, without glasses, at six inches.

August 15, 1916. Diamond type, one line read in forty seconds.

August 31, 1916. With the right eye one line of diamond type was read in six seconds, without the aid of a pointer. With the left eye after some minutes one letter was seen with the aid of a pointer. For the first time the color of her own eyes was seen with the aid of a mirror.

The progress noted may be summarized as follows:

May 9, 1915. R., p. l.; L., 5/200.
May 11, 1915. R., p. l.; L., p. l., glaucoma.
May 17, 1915. R., 14/200; L., p. l.
June 6, 1915. R., 14/50—; L., p. l.
October 15, 1915. R., 14/50—; L., 14/200.
November 21, 1915. R., 14/15+; L., 14/200.
May 12, 1916. R., 14/10+; L., 14/200.
June 17, 1916. R., 14/10+; L., 14/50.
July 14, 1916. R., 14/10+; L., 14/10—.
August 31, 1916. R., 14/10+ or 20/10—; L., 14/10—.

The vision of the right eye was improved from p. l. to 14/200 in 8 days; 14/200 to 14/50— in 20 days; 14/50— to 14/15+ in 168 days, or 5½ months; 14/15+ to 14/10+ in 185 days, or 6 months.

The vision of the left eye was improved from p. l. to 14/200 in 157 days, or 5 months; 14/200 to 14/50 in 246 days, or 8 months; 14/50 to 14/10— in 27 days.

In a letter received some months after she left New York, the patient wrote: "I do not think I have gone back any. I see very well indeed. Recently I saw in the garden, about one hundred feet away, a yellow butterfly alight on a red flower. My letters are written without glasses. The right eye really seems improved, but the left eye has not changed. I still use the dionin eye drops in the left eye only."

This case has been of special interest because it has demonstrated that central fixation, previously utilized in the treatment of functional disease of the eye, is also of distinct value in the treatment of certain organic diseases of this organ. Many such cases, which, treated solely along the lines of the customary ophthalmologic practice, would be consigned to the category of the practically hopeless, may be markedly benefited, and restored to active and useful life.

40 EAST FORTY-FIRST STREET.

REFERENCE.

1. BATES: NEW YORK MEDICAL JOURNAL, May 8, 1915.

"The cause of myopia." New York Medical Journal. 16 Mar 1912. 529-532, - W.H. Bates, MD.

posed all the time. It is one of the social problems beyond the power of the individual to deal with; it comprehends dwellings, factories, assembly halls, churches, schools. If the laws of proper ventilation have been found, our architects are not aware of them, so far as I know. As a preventive, sneezing should be watched; promiscuous and other kissing prohibited. The bed is a good cure; diaphoresis by hot drinks,—water, milk, alcoholic beverages,—by hot bathing; diaphoretic drugs are indicated. Hot foot baths may be recommended. Mild coal tars (no acetanilide, though it has been admitted to the U. S. *Pharmacopœia*), Dover's powder, aconite, liquor ammonii acetatis, teas,—we have all heard of them. We all use them.

Excessive nasal secretion,—1,000 cubic centimetres a day,—may be best stopped by absolute abstinence from drinking, together with enforced diaphoresis. Cocaine brushed or sprayed into the nose has been more often recommended than proved wholesome. After a short time, the secretion recommences. Adrenalin spray, or the powder of adrenals, snuffed up, acts a little better. A subcutaneous injection of three or four grammes of calcium chloride is recommended in excessive secretions of the nares in hay fever or iodine rhinitis, by Chiari and Jamuschke. Hexamethylenamine is recommended also in all sorts of microbic poisoning. After having been used on kidneys and gall-bladders, its virtues are now (by its changes into formaldehyde) extolled in serous and purulent meningitis, in poliomyelitis, and in rhinitis.

But I must not proceed. It was not my intention to say that I know how to cure a cold, no matter whether you call it a cold or catarrh or rhinitis or even muscular pain, better than you do yourselves.

THE CAUSE OF MYOPIA.*

By W. H. Bates, M. D.,
New York.

In the normal eye parallel rays of light are focused on the retina; in myopia they are focused in front of the retina. Myopia, with elongation of the optic axis from bulging of the posterior pole, posterior staphyloma, is incurable. Rarely congenital, myopia is usually acquired.

Functional myopia is an early stage of myopia with elongation of the eyeball. It is produced by muscular action, which alters the curvature of the crystalline lens, modifies the convexity of the cornea, or produces an elongation of the eyeball. Voluntary functional myopia may be produced by efforts to see distant objects, in children, elderly people, cases in which the accommodation is apparently paralyzed by atropine, and in aphakia after cataract extraction. That muscular action can produce functional myopia is shown by the fact that many cases of voluntary functional myopia manifest a convergent, divergent, or vertical squint. Also, operations on the eye muscles have benefited functional myopia. Von Graefe, Donders, and others have reported good results in functional myopia after tenotomy of the external rectus. Stevens published (*Anomalies of the Eye Muscles*) some cases of functional myopia relieved after operations on the eye muscles. In a personal communication he said that in his experience the refraction of the eye was usually changed after such operations.

The diagnosis of myopia may be made with the ophthalmoscope or retinoscope. In myopia with elongation of the eyeball, with the ophthalmoscope by the direct method, the details of the fundus cannot be seen clearly without the aid of a concave glass; whereas, in functional myopia, the retinal vessels and chorioidal pigment can be seen clearly, occasionally without such a glass. With the retinoscope, in myopia with elongation of the eyeball the shadow seen with the plane mirror held at four feet or further always moves in the opposite direction to the movements of the mirror; but, in functional myopia the shadow moves in the same direction at times, and especially when the eye is regarding distant objects without especially trying to see.

It has been generally accepted, that after the prolonged use of atropine, if the myopia continues, it is due to permanent elongation of the eyeball. After twenty-five years' study of these cases, my experience leads me to the conclusion that atropine does not always relax the near focus or relieve functional myopia.

A study of the eyes of a large number of individuals in whom functional myopia was produced by an effort, unconsciously or voluntarily, may be briefly summarized as follows:

An unsuccessful effort of the normal eye to see accurately new, strange, or unfamiliar distant objects was always followed either by myopic astigmatism, usually—compound myopic astigmatism, occasionally, or simple myopia infrequently. Mixed astigmatism was not observed. For example:

Case I. A woman, aged twenty-five years, had difficulty in reading the ten line of the Snellen card at ten feet. When she was unable to see the letters, retinoscopy always indicated a myopic refraction; but, when she read the letters, simultaneous retinoscopy always indicated no myopia. So accurate was retinoscopy in measuring the refraction that one was invariably correct when telling her when she could see and when not.

Case II. A boy, aged nine years, while reading at ten feet the line marked ten on the Snellen card was not myopic. When he regarded the large letter, vision 10/200, he had myopic astigmatism. When he regarded a picture at twenty feet, he appeared to make a greater effort to see, and by simultaneous retinoscopy, he had compound myopic astigmatism.

Case III. A boy, aged five years, when regarding his mother at ten feet, by retinoscopy was not myopic; but, when he regarded a stranger at ten feet, or the unknown letters on the Snellen card at the same distance, he had myopic astigmatism. When he made a manifestly increased effort to see a dog at 100 feet, the objective test used simultaneously indicated compound myopic astigmatism. The increased effort to see distant objects produced more myopic refraction.

Case IV. A woman, aged thirty-six years, with vision, 10/200, 10/50, 10/10, was not myopic. Neither was she myopic when she regarded at ten feet or 100 feet a picture, a book, and many other objects: but, when she was asked to look directly at a point three feet to one side of the Snellen card and read the letters, which was impossible, the retinoscope indicated compound myopic astigmatism, and the left eye converged. (Figs. 1 and 2.)

Case V. A girl, aged eighteen years, emmetropic, was

*Read before the New York County Medical Association, January 22, 1912.

similar to the previous patient; she did not make an effort to see distant objects until asked to regard the Snellen card by excentric fixation. Compound myopic astigmatism was produced and the right eye diverged.

CASE VI. A man, aged twenty years, had used atropine sulphate, one per cent., three times a day, in the left eye for two months. When he regarded a green curtain at ten feet he was not myopic; but, when regarding the large letters on the Snellen card he had compound myopic astigmatism.

CASE VII. A woman, aged forty-seven years, right eye, keratoiritis, received atropine sulphate, one per cent., three times a day for fifty days. When she regarded a green curtain at ten feet, she was not myopic; but, when she read some of the large letters on the Snellen card at ten feet, retinoscopy indicated compound myopic astigmatism.

CASE VIII. A man aged seventy years, by retinoscopy was not myopic when reading the ten line at ten feet; but, when he regarded an indistinct object, a thermometer, at 100 feet, retinoscopy indicated myopic astigmatism. An increased effort produced compound myopic astigmatism.

In normal eyes the axis of myopic astigmatism, which was found by retinoscopy after an effort to see distant objects, was usually corrected by a concave cylinder at 180°. It was observed frequently at 90°, and less often in an oblique meridian. As a rule the vertical or horizontal axis was the same in each eye—exceptions were found infrequently. When the axis was oblique in one eye it was generally parallel, or else at right angles, in the other eye. In most individuals the axis was always the same when tested frequently, daily, weekly, or after some months. Occasionally the axis would change in one person from 90° to 180°, or the reverse, or became more or less oblique when making apparently the same effort to see distant objects. The maximum amount of myopic astigmatism produced was 4 D., and was observed in a man aged fifty-nine years, with normal eyes when he regarded an astigmatic chart at ten feet.

In most eyes with errors of refraction, and in normal eyes with excentric fixation, the axes of astigmatism produced by efforts to see distant objects were not usually constant, and greater variations occurred in the same eye from day to day than was observed in normal eyes. In compound hypermetropic astigmatism the effort to see at a distance always lessened the refraction of sometimes one, sometimes the other principal meridian, or of both. In compound myopic astigmatism, one or both of the principal meridians were always increased. In mixed astigmatism, sometimes the hypermetropic meridian was lessened; in other cases the myopic meridian was increased, and in still others the hypermetropic meridian was lessened, while the myopic meridian was increased.

Symptoms of effort when trying to see distant objects: School children and others usually showed by facial expression that an effort was made—the eyelids were partly closed, or the reverse, more open, staring; wrinkling of the skin of the forehead and eyelids, contortions of the facial muscles, inclinations of the head in various directions, tremor of the head, and movements of the eyeballs resembling nystagmus were observed. Many school children and adults with normal eyes produced temporary excentric fixation, either with convergent, divergent, or vertical squint when trying unsuccessfully to read the Snellen card. The eyes of more than 10,000 school children were examined during the past ten years. The efforts of many to see were so manifest that one could usually tell before the sight was tested that their vision was defective (Figs. 3, 4, 5).

Recently a public school in New York was visited. In one class room of thirty young pupils, the attention of the principal was directed to five children whose facial expression suggested defective vision. She tested their sight and found it poor in all. She proposed glasses. In a few minutes the children were shown how to read the small letters on the Snellen card. They obtained normal vision and required no glasses. The facial wrinkles and evidences of strain disappeared.

About twenty-five teachers listened to a talk on myopia. Most of them showed by their facial expression, wrinkles of the forehead, and strained look of their eyes that their vision was probably defective. They were recommended to read the small letters on the Snellen card. The majority obtained normal vision almost immediately; the wrinkles were lost, and their eyes and faces no longer had the appearance of strain.

H. Cohn (*The Hygiene of the Eye in Schools*, p. 53) wrote: "All oculists agree that protracted near work with a bad light is one of the circumstances most favorable to the origin and development of short sight." My observations did not support this statement.

The near focus of the normal eye was measured objectively with the aid of the retinoscope. When a normal eye read fine print, diamond type, Jaeger No. 1, readily, without effort, at twelve inches, a concave twelve inch glass held outside the visual axis corrected the focus. When the eye read at ten inches it was too weak to correct the focus; and when the print was read at a greater distance than twelve inches, the glass was too strong, overcorrected the focus. Retinoscopy always measured the focus accurately and simultaneously while the normal eye read at 6″, 10″, 20″, 40″, or at any distance the fine print.

When the illumination of the print was lessened sufficiently to make it difficult to read Jaeger 1 at twelve inches, retinoscopy indicated that the near focus of the eye was not increased, but lessened in one or all meridians. No exceptions were found. It occurred in all school children, adults, and elderly people with normal eyes. Usually only one meridian was lessened, the horizontal. The maximum amount was 3 D. The vertical meridian was lessened, exceptionally.

Patients with emmetropia or normal refraction under atropine were examined. When large print was read easily at twelve inches, the eye was focused as in distant vision; but when, because of less light, or the request to read smaller print, an effort was made, one or all of the principal meridians became hypermetropic. It was interesting to note that these same individuals always produced myopic refraction, usually greater in the horizontal meridian, while making an effort to see distant objects; when an effort to see near always produced the opposite refraction, hypermetropia, and greater in the same meridian, the horizontal.

In hypermetropia, with or without astigmatism, one or more of the meridians of the eye were in-

creased by efforts to read by a dim light. In myopia, with or without astigmatism, one or more of the meridians became less myopic. In mixed astigmatism the refraction of the horizontal

FIG. 1.—Reading the Snellen test card with normal vision; optic axes parallel.

FIG. 2.—The same patient making an effort to see the Snellen test card at ten feet by excentric fixation. The patient produced a functional myopia and the left eye turned in.

meridian became either less myopic or more hypermetropic when an effort was made to read fine print. In presbyopia no exceptions were found; an effort to read always produced hypermetropia in one meridian in normal eyes, increased it in hypermetropia, or diminished it in myopia. In diseased conditions, inflammations of the eyelids, cornea, iris, retina, chorioid, and in cataract, an effort to read always lessened the focus.

So decided was the relaxation of the near focus that efforts to read by a dim light were successfully employed in some cases of functional myopia to obtain adjustment of the eye for distant vision after other methods had failed.

The following cases illustrate the effects of effort when reading with difficulty at a near point:

CASE IX. A boy with normal eyes, aged nine years, read Jaeger No. 1 easily at twenty inches. A concave twenty inch glass held outside the visual axis corrected the focus in all meridians. When the light was lessened, the print was read with difficulty. Now retinoscopy indicated that the vertical meridian was accommodated as before, but the horizontal was lessened and had become hypermetropic. With the aid of the retinoscope one always knew when the boy read easily or with difficulty. He was also examined after he had been reading two hours by a poor light, leaning over, the book held in his lap. The result was the same.

CASE X. A girl, aged twelve years, compound hypermetropic astigmatism, left vision, 10/10 nearly. Retinoscopy, vertical meridian was corrected by convex 3.00 D. and the horizontal by convex 1.50 D. when she regarded the 200 Snellen card letter at ten feet. When she read the twenty line Snellen at ten inches the vertical meridian was corrected by a concave ten inch glass and the horizontal by concave 1.00 D. She read Jaeger No. 1 at ten inches with difficulty; the vertical meridian remained the same, while the horizontal was corrected by convex 1.00 D. The illumination of the page was reduced by a screen. She had greater difficulty in reading Jaeger No. 1 at ten inches when the retinoscope used simultaneously indicated that the vertical meridian was corrected by concave 4. D., or ten inch, while the horizontal was corrected by convex 2.50 D. Retinoscopy indicated that this patient read with difficulty even very large print. An increased effort did not increase the myopic refraction of the vertical meridian, but made the horizontal more hypermetropic than when regarding the Snellen card at ten feet.

CASE XI. A girl, aged seven years, left eye under atropine sulphate, one per cent., three times a day for two months, vision normal with convex 3.00 D. S. combined with convex 0.50 D. C. at 90°, the same refraction with retinoscopy. With her correction she read with difficulty large print, Jaeger No. 14, at six inches when the vertical meridian was corrected by convex 4.00 D. and the horizontal by convex 5.00 D., an increase of 2. D. of hypermetropia in the horizontal meridian after an effort to read with the accommodation apparently paralyzed by atropine.

CASE XII. A woman, aged seventy-six years, right eye, 20/30, no glass improved, incipient cataract. By retino-

FIG. 3.—Girl with normal vision in 1904. Note the absence of facial effort.

FIG. 4.—The same girl as shown in Fig. 3, five years later with myopia of 3.00 D. Note the elevation of the eyebrows and other manifestations of effort.

FIG. 5.—The same, with myopia increased by voluntary effort to see better the Snellen card at twenty feet. The manifestation of effort is increased.

scopy all meridians were corrected by convex 0.50 D. Regarding the tip of her finger at six inches, the vertical meridian by retinoscopy was measured by convex 2.00 D., and the horizontal by convex 4.00 D. An effort to see distant objects always produced myopic refraction, while an effort to see near objects always produced the opposite, hypermetropic refraction.

Sufficient evidence has been obtained to convince me that near use of the eyes is not the cause of myopia. The cause of myopia is the same in birds, the lower animals, uncivilized man, and school children.

Wild birds have unusually good distant vision; but in captivity they acquire myopia (Casey A. Wood, *Ophthalmology*, Chicago, April, 1907). Uncivilized people have good sight; but after they live in civilized communities they acquire myopia (Risley, *System of Diseases of the Eye*, Norris & Oliver, 1897, Vol. II). Children in the first year of school have normal vision; later, myopia is acquired. The following explanation of these facts is offered:

The uncivilized man is compelled to adjust his eyes for accurate distant vision, for protection against enemies, and in obtaining food. But, when living in civilized communities he is protected from enemies, his food is supplied, accurate distant vision is no longer necessary, he neglects to practise it, naturally loses it, and becomes myopic. Wild birds are compelled to adjust their eyes accurately for distant vision; but, in captivity the necessity ceases, and, because accurate distant vision is no longer required, they neglect it and become myopic. School children do not need accurate adjustment of their eyes for distant vision. When they neglect to practise it they become myopic. To make the matter clearer: When the eyes are not accurately adjusted for distant vision they must obviously be adjusted for a near point and be functionally myopic.

CONCLUSIONS.

1. Myopia is not caused by efforts to read by a bad light.
2. The cause of myopia is an effort, usually unconscious, to see distant objects.

938 ST. NICHOLAS AVENUE.

THE CIRCULATION OF THE CEREBROSPINAL FLUID AND ITS BEARING ON THE PATHOGENESIS OF POLIOMYELITIC DISEASE.*

BY S. P. KRAMER, M. D.,
Cincinnati,
Surgeon to the Cincinnati Hospital.

While engaged in an investigation of the circulation of the cerebrospinal fluid in the living animal (dog), certain phenomena were observed which, it is believed, will be of importance in explaining the pathogenesis of disease of the central gray matter of the spinal cord and brain.

If one inject, into the subdural space of a living dog, over the cerebral cortex, two cubic centimetres of a one per cent. solution of methylene blue and kill the dog after ten minutes, it will be found that the blue coloration is confined to that part of the brain in front of the tentorium. The entire surface of the cerebral cortex on the side of the injection and a small though varying area of the mesial surface of the opposite hemisphere is stained. That is, the fluid diffuses to some extent under the falx cerebri. The cranial nerve sheaths, the subarachnoid space at the base, as well as the cerebellum, pons, medulla oblongata, and cord are unstained. At times the stain may show in the lower horn of the lateral ventricle on the side of the injection, finding its way through perforations in the pia, which admit the anterior choroid artery. This is in accord with the long known though often forgotten fact that the subarachnoid cavity does not extend over the cerebral hemispheres. Anterior to the tentorium this cavity is present only in the sulci and at the base of the brain, and is continuous with the lymph spaces in the sheaths of the cranial nerves. Between the surface of the cortex of the brain and the dura one may have lymph, especially in inflammatory conditions, but not cerebrospinal fluid.

If the same amount of methylene blue solution is injected under the dura in the cerebellar region, then the entire surface of the cerebellum, pons, medulla oblongata, and upper part of the spinal cord are stained. In addition, the base of the brain, as far forward as the optic chiasm, and the sheaths of the cranial nerves, are stained. So striking is this difference of staining of the cranial nerve sheaths between injection over the cerebral cortex and that behind the tentorium, that one is impressed with the idea that the sheaths of the cranial nerves are the orifices of outlet for the cerebrospinal fluid.

When the methylene blue is injected into the spinal portion of the subarachnoid cavity then a most striking picture presents itself. This experiment is done as follows: The dura over the lumbar portion of the spinal cord is laid bare for an inch or more by laminectomy, so that an injection may accurately be made by means of a fine hypodermic needle without injuring the spinal cord. The animals are killed from ten to twenty minutes after injection by opening the heart. The brain and cord are then carefully removed and the stain is found distributed as follows: The outer surface of the spinal cord is stained for a varying distance up; at times all the way to the medulla oblongata, at other times not so far. The floor of the fourth ventricle, however, is stained, as are the cerebellum, the aqueduct, the entire ventricular system of the brain, the subarachnoid space at the base, as well as the sheaths of the cranial nerves (Fig. 1).

The lower end of the spinal cord is the most deeply stained, as far down as the filum terminale. The spinal nerve roots outside the dura are absolutely unstained. Contrary to accepted opinion, there is no lymph connection between the spinal subarachnoid cavity and the sheaths of the spinal nerves. If, after removing the spinal cord, transverse sections are made all the way up to the medulla and fourth ventricle, the route of the circulation of the cerebrospinal fluid will become visible. It will be found that the central canal of the spinal

*Read before the Research Society of Cincinnati, December 7, 1911.

New York Medical Journal. 31 July 1920. 158-160

SHIFTING AS AN AID TO VISION.

By W. H. Bates, M. D.,
New York.

When the eye regards a letter with normal vision either at a near point or at a distance, the letters appear to pulsate, or move in various directions, from side to side, up and down, or obliquely. When it looks from one letter to another on the Snellen test card, or from one side of a letter to another, not only the letters, but the whole line of letters and the whole card, appear to move from side to side. This apparent movement is due to the shifting of the eye and is always in a direction contrary to its movement. If one looks at the top of a letter, the letter is below the line of vision, and, therefore, appears to move downward. If one looks at the bottom, the letter is above the line of vision and appears to move upward. If one looks to the left of the letter, it is to the right of the line of vision and appears to move to the right. If one looks to the right, it is to the left of the line of vision and appears to move to the left. Persons with normal vision are rarely conscious of this illusion, and may have difficulty in demonstrating it; but in every case that has come under my observation the patients have always, in a longer or shorter time, become able to do so. When the sight is imperfect the letters may remain stationary, or even move in the same direction as the eye.

It is impossible for the eye to fix a point longer than a fraction of a second. If it tries to do so, it begins to strain and the vision is lowered. This can readily be demonstrated by trying to hold one part of a letter for an appreciable length of time. No matter how good the sight, it will begin to blur, or even disappear, very quickly, and sometimes the effort to hold it will produce pain. In the case of a few exceptional people a point may appear to be held for a considerable length of time; the subjects themselves may think that they are holding it; but this is only because the eye shifts unconsciously, the movements being so rapid that objects seem to be seen all alike simultaneously, just as the parts of a moving picture appear to be seen as one.

The shifting of the eye with normal vision is usually not conspicuous, but by direct examination with the ophthalmoscope, it can always be demonstrated. If one eye is examined with this instrument while the other is regarding a small area straight ahead, the eye being examined, which follows the movements of the other, is seen to move in various directions, from side to side, up and down, in an orbit which is usually variable. If the vision is normal, these movements are extremely rapid and unaccompanied by any appearance of effort. The shifting of the eye with imperfect sight, on the contrary, is slower, its excursions are wider and the movements are jerky and made with apparent effort.

It can also be demonstrated that the eye is capable of shifting with a rapidity which the ophthalmoscope cannot measure. The normal eye can read fourteen letters on the bottom line of a Snellen test card, at a distance of ten or fifteen feet, in a dim light, so rapidly that they seem to be seen all at once. Yet it can be demonstrated that in order to recognize the letters under these conditions it is necessary to make about four shifts to each one. At the near point, even though one part of the letter is seen best, the rest may be seen well enough to be recognized; but at the distance, in a dim light, it is impossible to recognize the letters unless one shifts from the top to the bottom and from side to side. One must also shift from one letter to another, making about seventy shifts in a fraction of a second. A line of small letters on the Snellen test card may be less than a foot long by a quarter of an inch wide, and if it requires seventy shifts to a fraction of a second to see it apparently all at once, it must require many thousands to see an area of the size of the screen of a moving picture, with all its detail of people, animals, houses, or trees, and to see sixteen such areas to a second, as is done in viewing moving pictures, must require a rapidity of shifting that can scarcely be realized. Yet it is admitted that the present rate of taking and projecting moving pictures is too slow. The results would be more satisfactory, authorities say, if the rate were raised to twenty, twenty-two, or twenty-four a second.

The human eye and mind are not only capable of this rapidity of action, but it is only when the eye is able to shift thus rapidly that the eye and mind are at rest and the efficiency of both at their maximum. It is true that every motion of the eye produces an error of refraction; but when the movement is short this is very slight, and usually the shifts are so rapid that the error does not last long enough to be detected by the retinoscope, its existence being demonstrable only by reducing the rapidity of the movements to less than four or five a second. Hence, when the eye shifts normally no error of refraction is manifest. The more rapid the unconscious shifting of the eye the better the vision, but if one tries to be conscious of a too rapid shift a strain will be produced.

Perfect sight is impossible without continual shifting, and such shifting is a striking illustration of the mental control necessary for normal vision. It requires perfect mental control to think of thousands of things in a fraction of a second, and each point of fixation has to be thought of separately, because it is impossible to think of two things, or two parts of one thing, perfectly at the same time. The eye with imperfect sight tries to accomplish the impossible by looking fixedly at one point for an appreciable length of time, that is, by staring. When it looks at a strange letter, and does not see it, it keeps on looking at it, in an effort to see it better. Such efforts always fail, and are an important factor in the production of imperfect sight.

One of the best methods of improving the sight, therefore, is to imitate consciously the unconscious shifting of normal vision, and to realize the apparent motion produced by shifting. Whether one has imperfect or normal sight, conscious shifting and swinging are a great help and advantage to the eye; for not only may imperfect sight be improved in this way, but normal sight may also be improved.

The eye with normal sight never attempts to hold a point more than a fraction of a second, and when it shifts it always sees the previous point of fixation worse (1). When it ceases to shift rapidly, and fails to see the point shifted from worse, the sight ceases to be normal and the swing is either prevented or lengthened; occasionally it is reversed. These facts are the keynote of the treatment by shifting.

In order to see the previous point of fixation worse, the eye with imperfect sight has to look farther away from it than does the eye with normal sight. If it shifts only a quarter of an inch, for instance, it may see the previous point of fixation as well or better than before; and instead of being rested by such a shift, its strain will be increased, there will be no swing and the vision will be lowered. At a couple of inches it may be able to let go of the first point; and if neither point is held more than a fraction of a second, it will be rested by such a shift, and the illusion of swinging may be produced. The shorter the shift, the greater the benefit; but even a very long shift—as much as three feet or more—is a help to those who cannot accomplish a shorter one. When the patient is capable of a short shift, on the contrary, the long shift lowers the vision. The swing is an evidence that the shifting is being done properly; and when it occurs the vision is always improved. It is possible to shift without improvement, but it is impossible to produce the illusion of a swing without improvement, and when this can be done with a long shift the distance can be gradually reduced till the patient can shift from the top to the bottom of the smallest letter on the Snellen test card, or elsewhere, and maintain the swing. Later he may be able to be conscious of the swinging of the letters without conscious shifting.

No matter how imperfect the sight, it is always possible to shift and produce a swing, so long as the previous point of fixation is seen worse. Even diplopia and polyopia do not prevent swinging with some improvement of vision. Usually the eye with imperfect vision is able to shift from one side of the card to the other, or from a point above the large letter to a point below it, and observe that in the first case the card appears to move from side to side, while in the second the letter and the card appear to move up and down.

In some cases the eyes are under such a strain that no matter how far a patient looks away from a letter he sees it just as well, so long as he sees it at all, as if he were looking directly at it. In these extreme cases of eccentric fixation considerable ingenuity is sometimes required, first to demonstrate to the patient that he does not see best where he is looking, and then to help him to see an object worse when he looks away from it than when he looks directly at it. The use of a strong light as one of the points of fixation, or of two lights five or ten feet apart, has been found helpful. In such cases the patient, when he looks away from the light, is able to see it less bright more readily than he can see a black letter worse when he looks away from it. It then becomes easier for him to do the same thing with the letter. The highest degrees of eccentric fixation occur in the high degrees of myopia, and in these cases, since the sight is best at the near point, the patient is benefitted by practising seeing worse and producing the illusion of a swing at this point. The distance can then be gradually extended until it becomes possible to do the same thing at twenty feet. Usually such patients can begin shifting at the near point with the letters of the Snellen test card, but occasionally it is necessary to use a light, or lights. In hypermetropia, too, the sight is often best at the near point, when the same methods can be used as in myopia.

After resting the eyes by closing, or by covering with the palms of the hands in such a way as to exclude all the light, shifting and swinging are often more successful. By this method of alternately resting the eyes and then shifting persons with very imperfect eyesight have sometimes obtained a temporary or permanent cure in a few weeks.

Shifting may be done slowly or rapidly, according to the state of vision. At the beginning the patient will be likely to strain if he shifts too rapidly, and then the point shifted from will not be seen worse, and there will be no swing. As improvement is made the speed can be increased. It is usually impossible, however, to realize the swing if the shifting is more rapid than two to three times a second.

A mental picture of a letter can be made to swing precisely as can a letter on the test card. For most patients mental swinging is easier at first than visual swinging, and when they become able to swing in this way it becomes easier for them to swing the letters on the test card. By alternating mental with visual swinging and shifting rapid progress is sometimes made. As relaxation becomes more perfect the swing can be shortened, until it becomes possible to conceive and swing a letter of the size of a period in a newspaper. This is easier, when it can be done, than swinging a larger letter, and many patients have derived great benefit from it.

All persons, no matter how great their error of refraction, when they shift and swing successfully, correct their error of refraction partially or completely, as demonstrated by the retinoscope, for at least a short fraction of a second. This time may be so short that the patient is not conscious of improved vision, but it is possible for him to imagine it, and then it becomes easier to maintain the relaxation long enough to become conscious of improved sight. For instance, the patient, after looking away from the card, may look back to the large letter at the top, and for a fraction of a second the error of refraction may be lessened or corrected, as demonstrated by the retinoscope. Yet he may not be conscious of improved vision. By imagining that the C is seen better, however, the moment of relaxation may be sufficiently prolonged to be realized.

When swinging, either mental or visual, is successful, the patient may become conscious of a feeling of relaxation which is manifested as a sensation of universal swinging. This sensation communicates itself to any object of which the patient is conscious. The motion may be imagined in any

part of the body to which attention is directed. It may be communicated to the chair in which the patient is sitting, or to any object in the room, or elsewhere, which is remembered. The building, the city, the whole world, in fact, may appear to be swinging. When the patient becomes conscious of this universal swinging he loses the memory of the object with which it started, but so long as he is able to maintain the movement in a direction contrary to the original movement of the eyes, or the movement imagined by the mind, relaxation is maintained. If the direction is changed, however, strain results. To imagine the universal swing with the eyes closed is easy, and some patients soon become able to do it with the eyes open. Later the feeling of relaxation which accompanies the swing may be realized without consciousness of the latter, just as the letters may swing without consciousness of the fact, but the swing can always be imagined when the patient thinks of it.

Associated with all failures to produce a swing is strain. Some people try to make the letters swing by effort. Such efforts always fail. The eyes and mind do not swing the letters; they swing of themselves. The eye can shift voluntarily. This is a muscular act resulting from a motor impulse. But the swing comes of its own accord when the shifting is normal.

REFERENCES.

1. Bates: The Cure of Defective Eyesight by Treatment Without Glasses, New York Medical Journal, May 8, 1915.

40 East Forty-first Street.

Picture next page;

Immediate Production of Myopia and Myopic Astigmatism in Eyes Previously Normal by Strain to See at the Distance;

Fig 1 - Boy reading the Snellen test card with normal vision. Note the absence of facial strain. A boy with normal eyes reading the X line of the Snellen test card at 10 feet. Notice the expression of the eyes with the focus completely relaxed.

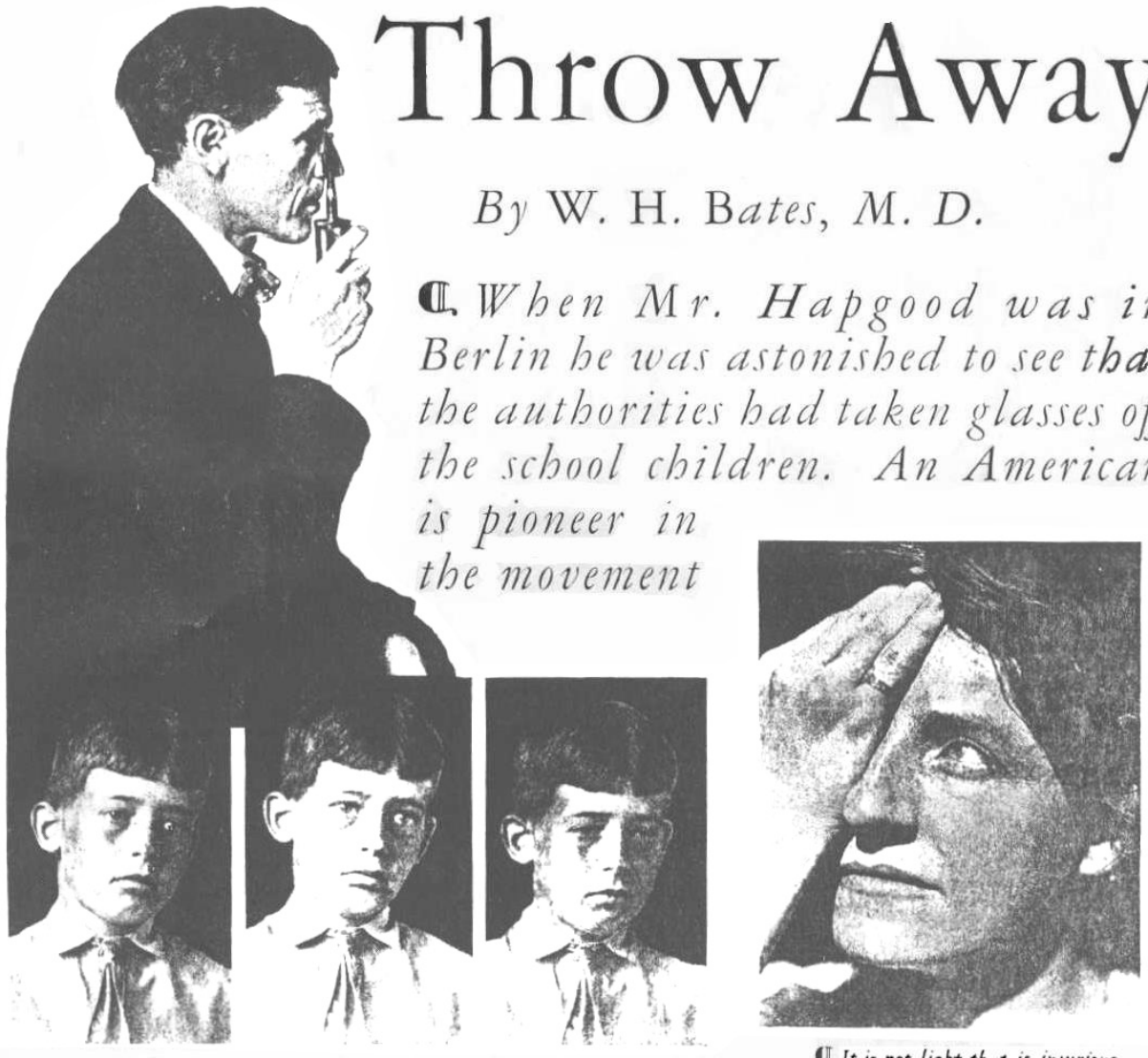
Fig 2 - The same boy trying to see a picture at twenty feet. The effort, manifested by staring, produces compound myopic astigmatism, as revealed by the retinoscope. Simultaneous retinoscopy indicated compound myopic astigmatism. He was unconscious of the fact that his eyes were focused for a near point. Note the manifestation of effort by staring.

Fig 3 - The same boy making himself myopic voluntarily by partly closing the eyelids and making a conscious effort to read the test card at ten feet. Functional myopia produced voluntarily by partly closing the eyelids (squinting) and making an effort to read the Snellen test card at ten feet.

Throw Away

By W. H. Bates, M. D.

¶ *When Mr. Hapgood was in Berlin he was astonished to see that the authorities had taken glasses off the school children. An American is pioneer in the movement*



¶ Does your boy squint?

¶ This boy is reading the Snellen test card with normal vision. Note the absence of facial strain.

¶ The same boy straining to see at a distance is producing myopic astigmatism in eyes previously normal.

¶ In this picture the boy is making himself myopic by partly closing his eyes and making conscious effort to read the test card at ten feet.

¶ It is not light that is injurious to the eye. This woman is reading the Snellen test card while the sun is shining into her eye.

THIRTY years ago, not knowing any better and being guided by the practice of other eye doctors, I recommended patients with imperfect sight to throw away their eyes and see with their glasses. Since that time I have made some valuable discoveries which have enabled me to cure people without glasses. The slogan now is: "Throw away your glasses and see with your eyes."

We are rapidly becoming a four-eyed nation. The enthusiasm of the eye doctors is putting glasses on many people who do not need them. Just as soon as we go to the doctor and complain about our eyes or some nervous trouble with our minds and our heads, the stomach or something else, the doctor prescribes glasses. Fifty years ago the number of persons wearing glasses was very much less than it is now. Human nature is such that when one person gets glasses we believe everybody else should do as we do and wear glasses. When prominent people set the fashion the rank and file feel that they must do the same. It is a matter of record in this country with a population of one hundred and ten million or more, that all persons over forty years of age, according to the old theories, should wear glasses.

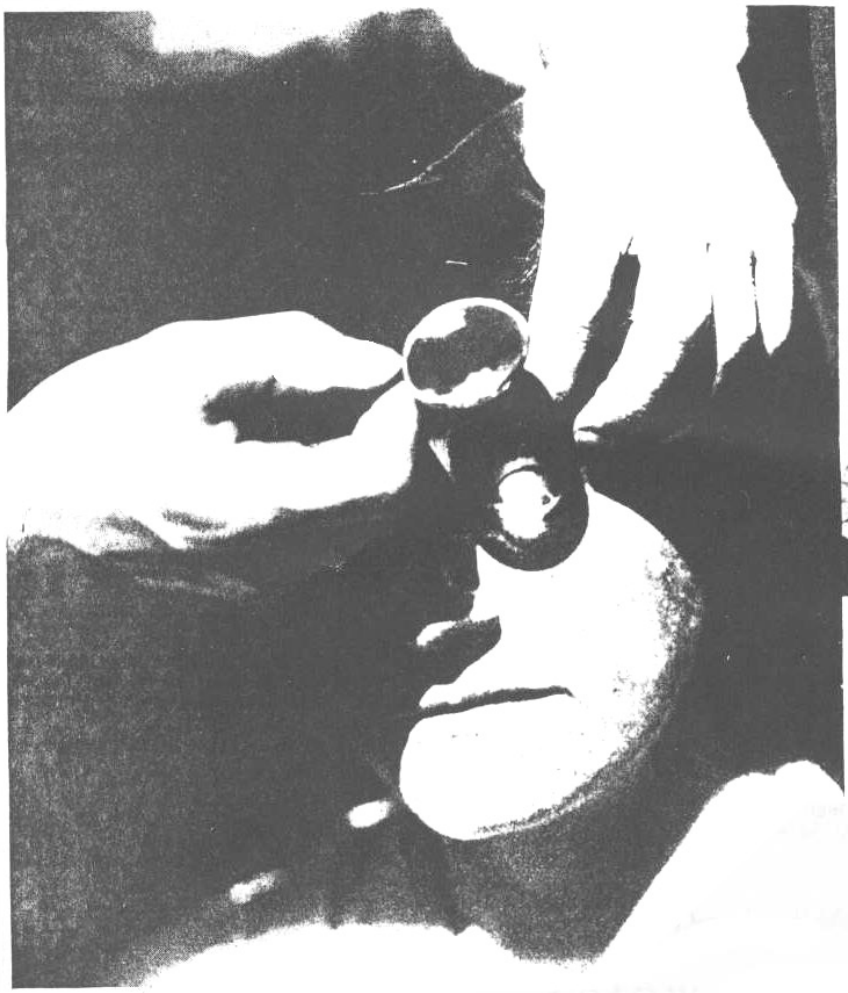
Some eye specialists have gone so far as to say that all children attending school should wear glasses either to relieve imperfect sight or to prevent their eyes from failing. This matter was considered by the Board of Education of the City of New York in 1912 and much pressure was brought to bear to have it done. I was the only physician that went before the Board of Education and recommended the method of treatment which had cured and prevented imperfect sight in school children.

The craze for glasses has even included nursing babies. It is all wrong, and the evidence has been accumulating through the years that imperfect sight is curable without glasses. Most of us should have an interest in the welfare of every child and get busy and investigate the facts. The medical profession has neglected its duty. They have done noble work in the study and prevention of yellow fever and other conditions, but when it comes to the eyes the doctors can only recommend glasses. My investigations have demonstrated many facts of great practical importance.

In the first place all children under twelve years of age with imperfect sight can be cured without glasses. This is a challenge. If there is one child who cannot be cured by my treatment I am wrong about the whole thing. There is no exception and when a proposition has no exception we call it a truth.

They can be cured not only by me but by their parents, by their teachers, by anybody who has normal sight, but they cannot be cured by people who have imperfect sight. The teachers in the public schools have succeeded by practicing my suggestions with the children, reading the Snellen test card with each eye as well as they can every day, devoting in most cases only a few minutes daily. Those children whose sight is already normal only need to read with normal sight, one minute or less, every day to prevent eye-strain and imperfect sight.

Your Glasses



¶. *A burning glass focuses light directly on the eye with beneficial results.*

Performed by a Bates Method Ophthalmologist and only in cases of blindness, advanced vision impairment, specific conditions. Light is focused on the white area of the eye, not on or near the pupil.

¶. *Mrs. Lierman, Dr. Bates's assistant during four years of arduous labor, helped him make the tests that showed the way to new methods of healing imperfect eyesight.*

¶. *Palming or covering the eyes with the hands is one of the most effective methods of obtaining relaxation of all the sensory nerves.*

One day I visited a classroom and I said to the teacher: "Can you pick out the children who have imperfect sight?" She selected a number of children that she thought had imperfect sight. In every case her selection was made because of the way the children used their eyes. Some of them squinted, some of them strained in other ways.

I tested the sight of these children and found it imperfect. Then I suggested to the teacher that she ask the children to use their eyes without strain, without making any efforts to see. You will find out how well they can see when they use their eyes easily, without effort.

Much to her surprise they all read the card with normal vision. Some of these children were wearing glasses. When they removed their glasses at first their sight was imperfect but after resting their eyes by closing them for five minutes or longer their vision became very much improved. In one classroom the teacher found that all her children had imperfect sight; but by showing them how to rest their eyes, by avoiding the strain, and by closing them, the vision of all of them was improved and all obtained perfect sight except one. I learned that this one also obtained perfect sight a few weeks later. It is impossible to cure those children while they are wearing glasses.

In all my enthusiasm I felt that it was not proper for me to interfere with children who were under the care of a physician while wearing the glasses he prescribed. Of course I could not be blamed if the children lost their glasses and got well without them.

It should be emphasized that teachers wearing glasses have a larger percentage of pupils with imperfect sight than have the teachers whose sight is normal and who do not wear glasses. Why is this? The facts are that children, being naturally great imitators, not only consciously or unconsciously practice the strained look of the eyes of the teachers with imperfect sight, but the strain of all the nerves of the body is imitated by the children. For the benefit of the school children no teacher wearing glasses or who has imperfect sight should have charge of children in any public or private school.

Parents wearing glasses are under a nervous strain almost continuously. It can be demonstrated in all cases that the children's eyes tend to strain and that the sight becomes imperfect because most children, if not all, imitate consciously or unconsciously the nervous strain of their parents. The future of our country is in the hands of the children and I believe that we should all make any sacrifice which can be made for their welfare.

Throw away your glasses, become cured. *It was demonstrated that all persons I tested wearing glasses*

Dr. Bates Describes Modern Eye Treatment—

Throw Away Your Glasses

were curable without glasses. I have demonstrated this fact, that the eyes of all near-sighted persons become normal while looking at a distant blank wall without trying to see. The same is true in all other cases, in far-sightedness, in astigmatism, no exceptions.

IT CAN always be demonstrated that when the normal eye with normal sight makes an effort to see at the distance the eye becomes near-sighted; again, no exceptions. When the normal eye strains to see at the near point the eye tends to become and does become less near-sighted and produces a measure of far-sightedness.

In astigmatism the strain can always be demonstrated. One can by will produce in the normal eye any kind of imperfect sight by the necessary strain. The normal eye is always at rest and nothing is done in order to see. If anything is *done* it is always wrong and always produces imperfect sight. This suggests treatment and prevention. Treatment can only succeed when perfect *rest* is obtained.

And what shall we say of the physicians, the oculists, the opticians and all persons engaged in the work of prescribing glasses? Every physician wearing glasses, like every child, every man, every woman, has to strain to make his eyes fit the glasses. In every case this fact can be demonstrated. Surely the leaders in this movement for the benefit of the eyes of the school children can be or ought to be the medical profession, and I feel that we are lax in our duty when we neglect to study these methods and practice these methods which cure imperfect sight without the aid of glasses.

Imperfect sight is usually contagious. Actors on the stage do not feel the need of glasses. Fancy some operatic star going through a performance wearing strong glasses. The strain would spoil the music.

Many people are afraid of the light. They protect their eyes with dark glasses when they go to the seashore, they use umbrellas, sunshades. In tropical countries special kinds of hats are popular, hats which are supposed to prevent the bad effects of the sun.

Bookkeepers and people who work by artificial light wear contrivances of all kinds to shade their eyes from the artificial light. Is sunlight injurious? It is not. Of course after remaining in a dark room and suddenly going out into the bright sunlight one feels the change, and if one is at all nervous the effect of the light on the eyes is magnified, exaggerated. Some

people believe it injures the eyes to read in the bright sunlight with the sun shining on the page. They complain that the light dazzles their eyes.

I know a farmer who for fifteen years had never been able to do a stroke of work out in the sun. He complained that the light blinded him and so he remained in a dark room most of the time and was not as happy as he might have been. He had a large family and in their sympathy they believed as he did and all the time cautioned him to protect his eyes. If someone opened the door suddenly and let in the daylight there was a great rush to close the door and protect the gentleman from the light.

He came to me with his eyes well wrapped up and protected from any light striking his eyes. I darkened the room and had him look down, and when he looked far down I lifted the upper lid and focused a strong light on the white part of his eye, first the artificial light and then the strong light of the sun.

The effect was miraculous. He smiled and walked around the room, looked out the window, put on his hat and walked down the street and came back feeling first rate. Ever afterwards he enjoyed the light instead of suffering from it. All he needed was a little encouragement. Focusing the strong light in his eyes with the aid of the burning glass and doing it right caused him no pain or discomfort whatever.

I KNOW a white man who lives in Borneo, an island in the tropics. This man goes around without a hat. He told me that the natives did not wear hats and had no discomfort from the sun and what was good enough for the natives was good enough for him, and it certainly worked. He has lived there thirty years or more and the sun does not do him any harm. Did he ever suffer sunstroke? No. Did anybody else ever suffer sunstroke in Borneo? There is no record. Out in the Canadian northwest in the summer time the sun is very strong and the crops mature in a few months. They raise fine wheat there. Do you hear of anybody being sunstruck working in the wheat fields?

In New York City the papers publish from time to time during the hot weather cases of sunstroke. I have been called to attend such cases. Quite a number of people living in tenement houses have been ill during the very hot weather and I am quite sure that many years ago I believed that I was treating cases of sunstroke. It is very queer but many of these cases never saw the sun and most of them had a breath that we in the days of prohibition might envy.

I do not believe any baseball player or any tennis player in spite of his strenuous exercise on bright sunshiny days has ever suffered from any bad effect of the sun. Most tennis players do not even wear a cap to protect their eyes from the sun and you have to have good eyesight to play a good game of tennis. When they serve the ball the light of the sun often shines directly into their eyes and the experts are able to drive the ball quite accurately in spite of the sun.

Many years ago I listened to the older and the wiser men who treat the eye and they complained that something ought to be done to prevent children playing out in the sun without any hats on. We are more liberal now and treat tuberculosis in children by exposing not only the head and eyes but their whole bodies naked to the sun and I understand it is a very successful treatment. Miners who seldom see the sun always have disease of their eyes. All people who wear dark glasses and avoid the bright sunlight always have trouble with their eyes.

I had a patient once who spent two years in a hospital here in New York many years ago, occupied a dark room and had her eyes bandaged with a black cloth so that not a ray of light could possibly enter her eyes, and at the end of her treatment left the hospital worse than she was before. I cured her by having her practice looking at the sun. At first when she did it she was temporarily blinded. She said that she had no perception of light whatever, but in a few hours she recovered and her eyes felt better.

I undertook to caution her by suggesting that she do it gradually not to get too much of the sun at once, to wait until she became more accustomed to it; but she paid no attention to what I said and went ahead and blinded her eyes again and kept it up every day, with very rapid improvement in her sight, until it was not more than a week or so before she could look straight at the sun without suffering any inconvenience whatsoever. Her vision which had been one-tenth of the normal with glasses became normal without glasses after the sun treatment.

SOME scientists in Boston experimented on the eyes of rabbits. They focused the strong light of the sun directly into the eyes and then examined the retina with a microscope and much to their surprise found nothing wrong. They tried strong electric arc lights and found that the retina was not injured. They used every known light on the eyes of these animals and in no case was the light ever an injury.

I called on a friend of mine who had an Alpine lamp which he was using for treating different diseases. He said that one should wear a dark glass to protect the eyes from this light because it was very injurious to the eyes. Right away I had him turn it on full force and I looked at the strong light of the lamp.

"What did you do that for?" he asked.

"To see if it would make me blind," I answered.

"Well how do you feel now?" he said after a few minutes.

"All right," I answered.

"Is your sight all right?"

"It certainly is," I replied.

This was some years ago and I am still able to see.

About ten years ago the Scientific American published a series of articles on the effect of light on the eyes and published that some of the rays were injurious. I tested the facts and found that the man who had written the article had neglected to report the exceptions.

Recently an acquaintance of mine told me that he had seen in the last three months seventy-four cases of disease of the eyes from exposure to strong light from the electric arc. I told the gentleman

that he had had an unusual experience, but in my heart I knew he was a liar.

CONCENTRATION

For many years it had been drummed into my mind by my teachers when I first went to school and later by my professors in college, that in order to accomplish things and to make a success of life, one should practice concentration. Recently in New York I received an advertisement from a man who delivers popular lectures, an invitation to attend the lecture with the title "Concentration the Key-note to Success." About the same time one of my patients suffered very much from imperfect sight. The patient bought a book of 500 pages on concentration. He bought the book to improve his memory and his sight.

For many years from time to time patients from the faculties of Columbia, Yale, Harvard, Princeton, Cornell and other colleges come to me for treatment of their eyes. They all say that not only are they unable to use their eyes for any length of time but that they are also ill in a great many other ways, physically, mentally, with their nerves all shot to pieces. They complain that they have lost the power to concentrate.

By investigating the facts I find that invariably they have been teaching concentration. It does me a great deal of good personally to get square with them because these are the people who cause so much imperfect sight. It can be shown that all persons with imperfect sight are trying to concentrate. I have repeatedly published and described the evidence which proves conclusively that concentration of the eyes is impossible.

Trying to do the impossible is a strain, an awful strain and the worst strain that the eyes can experience. So many people have a theory that concentration is a help and if we could all concentrate we would all be much better off. The trouble is that concentration is a theory and not fact. If you try to concentrate your mind on a part of a large letter of the Snellen test card at ten feet or twenty feet it can be demonstrated that the effort fails and the vision becomes imperfect.

The same is true of the memory and of the imagination. The dictionary says concentration is an effort to *keep your mind fixed* on a point. I have tested a great many people and not one was ever able to accomplish it *for any length of time*, and the result is always bad with the eyes, with the memory, with the imagination, with the nerves of the body generally. If the professors of concentration were wise they would avoid trying to practice it. It is only in that way that they can avoid trouble.

TREATMENT

If you have imperfect sight and desire to obtain normal vision without glasses, I suggest that you keep in mind a few facts. In the first place the normal eye does not have normal sight all the time, so if you have relapses in the beginning do not be discouraged. First test your sight with a Snellen test card with each eye at twenty feet, then close your eyes and rest them. Cover them with one or both hands in such a way as to shut out all the light and do this for at least an hour, then open your eyes for a moment and again test your sight with both eyes at the same time.

Your vision should be temporarily improved if you have rested your eyes. If your vision is not improved it means that you have been remembering or imagining things imperfectly and under a strain. With the eyes closed and covered at rest, with your mind at rest, you should not see anything at all, it should be all black. If you see colors, red, green, blue, or flashes of light, you are not resting your eyes but you are straining them.

Some people when they close their eyes let their minds drift and think of things which are pleasant to remember, things which come into their minds without their volition and which are remembered quickly, easily and perfectly. Some patients have great difficulty in improving their sight by closing their eyes and trying to rest them. If you fail, get someone with perfect sight to demonstrate that resting the eyes is a help and who can show you how to do it.

Persons with normal eyes when they have normal sight suffer no pain, discomfort, headaches or fatigue. When a person with imperfect sight closes the eyes and rests them successfully the eye becomes normal for the time being. When such a person looks at the distance and remembers some letter, some color or some object perfectly the eyes are normal and the vision is perfect. This is a very remarkable fact, it has been tested in thousands of cases and one can always demonstrate that it is true.

One of the quickest and most satisfactory ways of improving the sight is a perfect imagination. The normal eye at twenty feet imagines it sees a small letter of the same size as it does at one foot. The eye with imperfect sight on the contrary usually sees a letter at twenty feet larger than it really is.

The normal eye imagines the white of a Snellen test card at twenty feet, ten feet, as white as it is at one foot. The eye with imperfect sight sees the whiteness of the card less white or a shade of gray.

The white centers of the letters are imagined by the normal eye to be whiter than other parts of the card, while the eye with imperfect sight imagines the white centers of the letters to be less white than the margin of the card. Persons with imperfect sight have been cured very quickly by demonstrating these facts to them and encouraging them to imagine the letters in the same way as the normal eye imagines them.

WHEN reading small print in a newspaper or in a book the normal eye is able to imagine the white spaces between the lines whiter than they really are. The whiter the spaces are imagined the blacker the letters appear and the more distinct do they become.

Persons with imperfect sight do not imagine the white spaces between the lines of fine print that they are endeavoring to read, to be as white as the margin of the page. Persons with imperfect sight do not become able to read fine print until they become able to imagine the white spaces between the lines of letters to be whiter than they really are.

When people with normal vision have normal sight they are always able to see one letter best or one part of a letter better than all the rest. It is impossible to see a whole letter at one time perfectly. One has to imagine different parts best. Persons with imperfect sight, when they regard a line of letters that they do not read, discover that they do not see best one part of the line of letters, but rather do they see most of the line a pale gray with no separation between the letters.

By Central Fixation is meant the ability to see best where you are looking. When one sees a small letter clearly or perfectly it can be demonstrated that while the whole letter is seen at one time, one sees or imagines one part best at a time. The normal eye when it has normal vision is seeing an illusion and sees one letter best of a line or one part of one letter best at a time.

WE DO not see illusions, they are imagined. Central fixation is a truth to which there are no exceptions and yet it is all imagination. The more perfect the imagination, the more perfect the sight, the more perfect is central fixation.

It is interesting to realize that the truth about vision in all its manifestations, does not obey the laws of physiology, the laws of optics, the laws of mathematics, and to try to explain in some plausible way, *why* or *how* all these things are so, is a waste of time, because I do not believe anybody can explain the various manifestations of the imagination.

Most people have an imagination that is good enough to cure them if they would only use it. What we see is only what we think we see or what we imagine we see. When we imagine correctly we see correctly, when we imagine imperfectly we see imperfectly. People with imperfect sight have difficulty in imagining that they see perfectly at twenty feet the same letter that they do at one foot or less.

IT CAN be demonstrated that when one remembers a letter perfectly one cannot at the same time remember some other letter imperfectly. The same is true of the imagination and of the vision. This fact is of the greatest importance in the treatment of imperfect sight without glasses. If one can remember perfectly a mental picture of some letter at all times, in all places, the imagination and vision for all letters regarded are also perfect.

One can improve the memory by alternately remembering a letter with the eyes closed for part of a minute or longer and then opening the eyes and remembering the same letter for a fraction of a second. Unfortunately it is true that many people with imperfect sight are unable to remember or imagine mental pictures perfectly. The treatment of these cases is complicated.

One patient when he looked at a white pillow saw it without any difficulty. He thought he saw it all at once. When he closed his eyes he could not remember a mental picture of the pillow.

With his eyes open I called his attention to the fact that he did not see the whole pillow equally white at the same time but that his eyes shifted from one corner, that he saw best to another corner or to another part of the pillow and that he successively imagined one small part of the pillow

best. With his eyes open he could not see two corners of the pillow best at the same time. He had to see it by central fixation, one part best, in order to see it perfectly. I suggested that when he closed his eyes he remember the pillow in the same way, one corner at a time or one small area best at a time.

He immediately for the first time in his life obtained a mental picture of the pillow. Afterwards he became able to remember or imagine a mental picture of the pillow with his eyes closed by practicing the same methods. He became able to imagine mental pictures of one letter at a time. Always he found that he could not remember the whole letter at once. The strain was evident and made it impossible. By alternately remembering a mental picture of a letter with his eyes closed and remembering the same picture with his eyes open for a short fraction of a second he became able to remember the mental picture of a letter when looking at a blank wall where there was nothing to see, just as well as he could with his eyes closed.

It required many hours of practice before he could remember the letter perfectly when looking anywhere near the Snellen test card, because he could not remember one letter perfectly and imagine one letter on the Snellen test card imperfectly without losing the mental picture. In other words he could not imagine one thing perfectly and something else imperfectly at the same time.

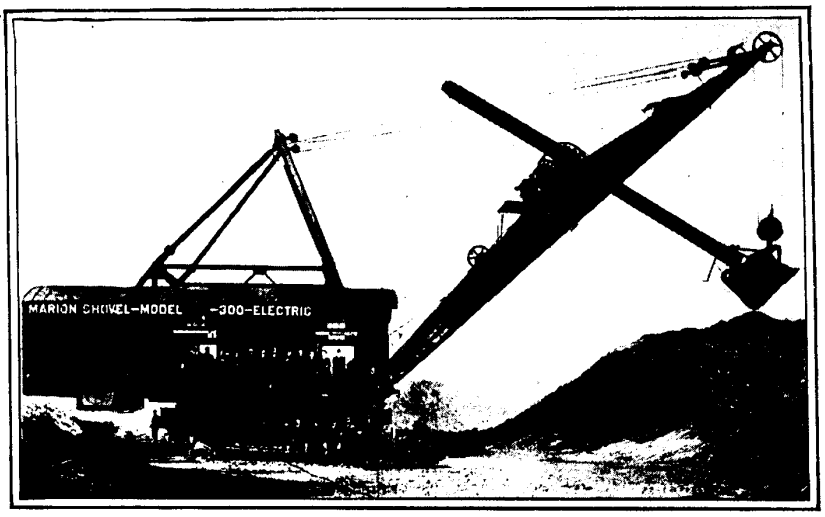
After a patient has become able under favorable conditions to imagine mental pictures as well with the eyes open as with the eyes closed, his cure can be obtained in a reasonable length of time. One patient, for example, could not see the largest letter on the Snellen test card at more than three feet but by practicing the memory of the mental picture of a letter, alternately with his eyes closed and with his eyes open, he was permanently cured in a few weeks.

In the beginning even with the strong glasses the vision that he obtained was one-tenth of the normal, but with the help of the mental pictures he became able to read without glasses at twenty feet a line marked ten on the Snellen test card. School children who have never worn glasses, under twelve years of age, can easily be cured by their teachers in two weeks or less.

It is very important that all patients who desire to be cured of imperfect sight should discard their glasses and never put them on again for any emergencies. It is not well to use opera glasses. Going without glasses has at least one benefit: it acts as an incentive to the patient to practice the right methods in order to obtain all the sight that seems possible.

PREVENTION OF MYOPIA IN SCHOOL CHILDREN

About ten years ago I introduced my method for the prevention of myopia in school children in a number of the schools in the City of New York. In one year I studied the records of twenty thousand children who had been tested before and after the treatment. To prove a negative proposition, to prove that something does not occur because something else is done, is a difficult or impossible proposition. When I recommended my treatment for



The largest one-man shovels in the world, equipped with General Electric motors, take eight dump cartloads at a bite, and can take a bite a minute.

Its shoulders never tire

A giant worker—excavating over three hundred thousand cubic feet a day! In three days, six hours and thirty-six minutes, it could handle material equal in cubic contents to the Washington Monument.

Think for how many centuries the world wasted its most precious possession—human lives—in labor that electricity can do!

General Electric Company makes many different types of motors, some small enough to wind a clock, some large enough to operate these giant shovels; but *all* designed to help electricity do more for human service at a lower cost.

GENERAL ELECTRIC

SHEET MUSIC 15¢

Ask for Century Edition

THERE isn't a reason in the world why you should pay more than 15c for sheet music, whether you buy the simple "Morning Prayer" or the intricate "Hungarian Rhapsody."

In Century Edition you have sheet music beautifully printed on the finest of paper. Every measure is standard size. Every note is certified to be correct as the master wrote it. All of Century's 2200 compositions are only 15c—"Barcarolle," "Evening Star," "Il Trovatore," "Poet and Peasant," etc! Specify "Century Edition" when you buy sheet music—you'll save money. Patronize the Century dealer—remember, Century's low price is possible only because of his small profit. If your dealer can't supply you, we will.

Complete catalog of over 2200 classical and popular standard compositions free on request.

Ask your dealer to show you Martin's "Rudiments for the Piano," Jahn's "Rudiments for the Violin" and Martin's "Scales and Chords." Used by all modern teachers.

Century Music Publishing Co., 233 W. 40th St., N.Y.

CENTURY Certified EDITION SHEET MUSIC

the school children I claimed that every child who used the method properly would see better and that no matter how poor the sight might be or how long the sight had been imperfect the vision would be improved always.

If there were one exception I made the statement that my method was only a working hypothesis at best or a theory, and that I was wrong about everything I said. Since all the children who used the method had their sight improved it is evident that imperfect sight from myopia was prevented in those children at that time.

I have published from time to time reports on results of my method for the prevention of myopia in school children. These reports are on file in the New York Academy of Medicine and can be consulted by anybody.

In 1912 I read a paper on this subject before the New York County Medical Association in which I made the statement that every child with normal eyes and normal sight who strains to see at the distance becomes temporarily or more continuously near-sighted. There are no exceptions.

If one competent ophthalmologist can prove that I am wrong about one case, I am wrong about all the statements I have made about myopia. This experiment can be performed in the doctor's office or at his clinic and the facts determined with the aid of a retinoscope, an instrument used for measuring the amount of near-sightedness which may be present in the eye.

There were present at this meeting a large number of prominent eye doctors of the City of New York. They knew that I was going to make this statement and issue this challenge because I sent a copy of my paper to these gentlemen two weeks before I read the paper. It would have been very easy for any of them to have tested the matter and determined whether I was right or wrong, but when the Chairman of the Society called on them to discuss my paper they declined to say anything about it or to publicly deny it.

I have the records of many persons who threw away their glasses and now have perfect sight with normal eyes.

They did it.

Everybody can do it.

You can do it.

Hearst's International keeps its readers abreast of the big steps in the conquest of disease. Dreyer and his fight against Tuberculosis, in Hearst's International for October.

New York Medical Journal. 101(19): 8 May 1915. 925-33.

New York Medical Journal

INCORPORATING THE

Philadelphia Medical Journal and The Medical News

A Weekly Review of Medicine, Established 1843

VOL. CI, No. 19. NEW YORK, MAY 8, 1915. WHOLE No. 1901.

Original Communications.

THE RADICAL CURE OF ERRORS OF REFRACTION.

By Means of Central Fixation.

BY W. H. BATES, M. D.,
New York.

INTRODUCTION.

In most textbooks on ophthalmology it is clearly stated that errors of refraction are incurable, and that relief of the symptoms can be obtained only with the aid of glasses. My investigations during the past twenty-five years have convinced me and others that errors of refraction can be cured by treatment without glasses.

I have been engaged during the past three years in the physiological laboratory of the College of Physicians and Surgeons of Columbia University, New York, in a series of experiments on the eyes of animals, which show, I believe, that the prevalent ideas concerning the causes of errors of refraction are not correct. Those ideas ascribe such errors to permanent, innate, or acquired deformations of the eyeball. My experiments seem to demonstrate that we can go farther back and find such deformations in abnormal strain of the extrinsic muscles of the eye. In animals, myopic refraction is produced by excessive contraction or strain of the oblique muscles; hypermetropic refraction by an excessive contraction or strain of the recti muscles; and astigmatism by a modification of the action of the extrinsic muscles.

I. EXPERIMENTS ON THE EYES OF ANIMALS.

CONCLUSIONS.

1. A strain of two or more of the extrinsic eye muscles produced by electrical stimulation or advancement is always followed by an error of refraction. Relaxation of these muscles by one or more tenotomies always prevents the production of errors of refraction by a strain.

2. Neither the crystalline lens nor the ciliary muscle is a factor in the production of either myopic refraction or accommodation. (See *Bulletin of the New York Zoological Society* for November, 1914.)

3. When the two oblique muscles are present and active, myopic refraction or accommodation is always produced by:

a. Electrical stimulation of the eyeball;

b. Electrical stimulation of either the third or fourth nerves near their origins in the brain;

c. Traction inward of the insertion of either the superior or the inferior obliques;

d. Advancement or a tucking operation of one or both obliques.

4. After myopic refraction is produced, it becomes increased after a tenotomy of one or more of the recti.

5. Myopic refraction is never produced by electrical stimulation:

a. After a tenotomy of one or both obliques;

b. After the subconjunctival injection of a two per cent. solution of atropine sulphate deep into the orbit. Instillation of atropine in the conjunctival sac may lessen but not prevent the experimental production of myopic refraction.

6. After a tenotomy of one or both obliques, and when two or more of the recti muscles are present and active or capable of moving the eyeball in two or more directions, hypermetropic refraction is always produced by:

a. Electrical stimulation of the eyeball;

b. Electrical stimulation of the third nerve near its origin in the brain;

c. Traction forward of the insertion of one rectus muscle;

d. An advancement or tucking operation of one or more of the recti.

7. Hypermetropic refraction is never produced by electric stimulation:

a. After a tenotomy of all the recti;

b. After the subconjunctival injection of a two per cent. solution of atropine deep in the orbit; or by instillation into the conjunctival sac.

8. Astigmatism is usually produced and combined with myopic or hypermetropic refraction produced experimentally.

9. Mixed astigmatism is produced by a traction of the insertion of the superior rectus directly upward, and in other ways. In these cases myopic refraction in one meridian is never produced after a tenotomy of the inferior oblique, while hypermetropic refraction in one meridian is never produced after a tenotomy of the inferior rectus.

10. Advancement of both obliques with advancement of the superior and inferior recti always produces mixed astigmatism.

11. When considerable myopic refraction is produced experimentally, the optic axis is evidently lengthened (Fig. 4); in a high degree of hypermetropic refraction it is shortened; after the production of a large amount of mixed astigmatism the cornea becomes markedly elliptical.

12. In eyes after the removal of the lens, myopic, hypermetropic, and astigmatic refraction is produced

Copyright, 1915, by A. R. Elliott Publishing Company.

as mentioned above in normal eyes. Atropine, as in normal eyes, prevents the production of myopic, hypermetropic, and astigmatic refraction, in lensless eyes by electrical stimulation.

The following are details of experiments on the eyes of animals:

EXPERIMENTS ON ACCOMMODATION.

I. A perch was placed in a square glass jar 12" by 6" by 6" nearly filled with water, about two drams of ether was added and the top was covered with a board. In half an hour the perch became less active and was removed from the jar. It was difficult or impossible to measure the refraction satisfactorily by the aid of the retinoscope in the air. The fish was returned to the glass jar, head near the surface, and was supported by fixation forceps fastened to the lower jaw. With the eye immersed the refraction by retinoscopy was nearly normal. At three feet distant with a plane mirror, self illuminated by electric light, the battery being in the handle of the retinoscope, the shadow in the pupil moved with the movement of the mirror with a convex spherical glass plus 1 D. held close to the eye of the perch, and with plus 2 D. the shadow moved in the opposite direction.

When the eye was examined in the air, the illumination of the retina or the light reflex obtained was fainter, but sufficient to enable the observer to note that the refraction was nearly the same as when the eye was immersed in the water. On continued exposure to the air, but even in the than five minutes, no light reflex from the pupil was obtained with the retinoscope. However, immediately after the reimmersion into water a bright reflex was visible in the pupil when the light was reflected into the pupil by the retinoscope.

The head of the perch was lifted above the surface of the water and the eye was stimulated with the faradic current. Muscular movements of the head and body of the fish were manifest. The eye was then immersed. Retinoscopy now indicated myopic refraction in all meridians; or in other words, accommodation. The myopia remained for some minutes and then gradually subsided until it disappeared altogether, the eye becoming nearly normal as before. The same phenomena occurred with the other eye. The perch was removed from the water and placed on a table, and the superior oblique of the right eye was cut transversely. Electrical stimulation of the right eye did not then produce accommodation as in the left eye. Conclusion: The ciliary muscle does not produce accommodation in the perch.

II. In another experiment on a rock bass, both eyes were found to be emmetropic when examined in water. Electrical stimulation of the right eye produced myopic refraction or accommodation. The superior oblique was then divided, after which electrical stimulation produced no accommodation. The divided superior oblique was next united by a suture. Electrical stimulation then produced accommodation as at first.

Both the superior and inferior obliques were then removed from the right eye. Twenty-four hours later, ten days later, and even six weeks later, electrical stimulation of the right eye produced no accommodation at any time, but always resulted in hypermetropia, which was usually corrected by plus 5 D. sphere. Electrical stimulation of the left or nonoperated eye on the same dates always produced accommodation or myopic refraction. These experiments were witnessed and confirmed by a number of physicians.

III. Decapitated dog; emmetropic. Electrical stimulation of the eyeball produced myopic astigmatism which was corrected by minus 2 D. cylinder, 90°. After tenotomy of the superior oblique, electrical stimulation produced compound hypermetropic astigmatism, which was corrected by convex 2 D. and convex 3 D. cylinder, 180°. After tenotomy of the superior rectus, the refraction became normal and was not changed to myopic or hypermetropic refraction by electrical stimulation. This experiment is offered as additional evidence that the lens is not a factor in the production of myopic refraction or accommodation. It also indicates that the obliques produce myopic refraction and that the recti produce hypermetropic refraction.

Congenital absence of one oblique. Strong evidence that the obliques are the muscles that produce myopic refraction or accommodation is found in the fact that while electrical stimulation of the oblique eye muscles always produces accommodation when the two obliques are present and active; it is never produced in animals with a congenital absence of one oblique. Moreover, when the countertraction is supplied by a suture inserted near the usual location of the absent oblique in these cases, accommodation is always produced by electrical stimulation. The following experiment illustrates this:

IV. Dogfish, decapitated, emmetropia; electric stimulation on the eye produced no accommodation. The inferior oblique was absent and a suture was inserted in its usual location. Accommodation was then produced by electrical stimulation of either the eyeball or the fourth nerve near its origin in the brain. A two per cent. solution of atropine sulphate was applied to the fourth nerve and thereafter electrical stimulation of the fourth nerve produced no accommodation. It should be mentioned that soon after the removal of the lower lid the cornea became cloudy and the refraction could not be measured by retinoscopy. Whenever electrical stimulation or advancement of one oblique did not produce myopic refraction or accommodation, investigation always revealed the absence of one oblique; or, as in all cats observed, an inactive or insufficient oblique.

V. *Production of myopia.* A rabbit had hypermetropia 4 D. S. The superior oblique was advanced by a tucking operation and the refraction was then corrected by convex 2 D. S. and convex 2 D. C., 180°. The eye was examined frequently during fourteen days and remained unchanged. Seventeen days after the operation the refraction had returned to convex 4 D. S., the amount existing before the advancement of the muscle. Examination of the site of the operation showed that the suture inserted in the muscle had cut its way through and the oblique was no longer shortened.

A large number of rabbits were operated upon by advancement of either the superior or inferior oblique or of both at the same or at different times, without obtaining a permanent production of myopia. In all cases the suture cut through the delicate ribbonlike muscle very soon; generally in a few days, when the refraction became the same as before the operation. To increase the effect of the advancement, a tenotomy of one or more of the recti was frequently done without much if any permanent effect.

VI. *Production of hypermetropia.* Carp, decapitated, emmetropia. Had hypermetropic astigmatism after advancement of the superior rectus which was corrected by convex 5 D. C., 180°. After electrical stimulation of the eyeball, the error of refraction was corrected by concave 2 D. S. and convex 11 D. C., 180°; after tenotomy of the superior oblique the error of refraction was corrected by convex 16 D. C., 180°. Thus, after the production of hypermetropic astigmatism, electrical stimulation produced myopic refraction in one meridian and increased the amount in the hypermetropic meridian. After tenotomy of the superior oblique, the hypermetropic meridian was increased, while the normal meridian remained unchanged. In eyes which have not been operated upon, a tenotomy of one or both obliques does not produce hypermetropia nor increase it when it is present. Neither does a tenotomy of one or all of the recti produce myopia.

VII. Decapitated cat, emmetropia. Electrical stimulation of the eyeball produced hypermetropia of 1 D. S. After tenotomy of the superior oblique, there was no change in the refraction and electrical stimulation of the eye produced more hypermetropia, which was corrected by convex 9 D. S. Tenotomy of the superior rectus did not change the refraction from the normal, but thereafter electrical stimulation produced no hypermetropia. The same results were obtained in many other cats and no exceptions were observed. Conclusion: Hypermetropia is produced in the eyes of cats by electrical stimulation before and after tenotomy of the superior oblique and is prevented by a tenotomy of one or more of the recti.

EXPERIMENTS ON LENSELESS EYES.

VIII. Carp; by retinoscopy both eyes were emmetropic. Electrical stimulation of each eyeball produced accommodation or myopic refraction. Simple extraction of the lens with the aid of a spoon was done, after a peripheral corneal section. Eleven days later, the eye was healed and the pupil was sufficiently clear to measure the refraction objectively with the aid of the retinoscope. With the eye immersed in water the refraction was corrected by convex 23 D. S. Electrical stimulation produced less hypermetropia; or in other words, accommodation.

IX. Cat; twenty-four hours after decapitation the right eye was emmetropic by retinoscopy. A narrow bladed cataract knife was made to enter the interior of the eyeball from above and just behind the equator. The point of the knife was pushed downward and forward and passed through the periphery of the lens into the area of the pupil. The point with the flat surface of the blade looking forward was then pressed backward, forcing the lens downward below the axis of vision. The refraction was then corrected by convex 17 D. S. With the aid of a pair of fixation forceps, the insertion of the superior oblique was rotated inward and backward. For some minutes the refraction was corrected by convex 15 D. S.: i. e., myopic refraction of 2 D. was produced. Traction upward and forward of the insertion of the superior oblique was made. The refraction was then corrected by convex 20 D. S.: i. e., hypermetropic refraction of 3 D. was produced. Traction of the insertion of the superior oblique upward and nearly parallel to the plane of the iris was made. The refraction was then corrected by convex 15 D. S. and convex 3 D. C. at 180°: i. e., mixed astigmatism, corrected by concave 2 D. C. 180° and convex 1 D. C. 90° was produced.

X. Carp; decapitated; emmetropic. The left lens was pushed outside the axis of vision by Dr. C. Barnert. The refraction was corrected by convex 16 D. S. After electrical stimulation the refraction was corrected by convex 13 D. S., i. e., accommodation of 3 D. S. was produced.

XI. Pearl roach; emmetropic. The lens of the left eye was dislocated outside the axis of vision and the refraction was corrected by convex 16 D. S. After electrical stimulation the refraction was corrected by convex 14 D. S., i. e., accommodation of 2 D. S. was produced. These last two experiments were witnessed by three other physicians.

XII. Rabbit; simple extraction of the lens of the right eye. Two months later, by retinoscopy, hypermetropia of 17 D. S. Electrical stimulation lessened the hypermetropia or produced accommodation, the error of refraction being corrected by convex 14 D. S. and convex 2 D. C. 180°. In other experiments on rabbits, after the removal of the lens, the hypermetropia was always lessened or accommodation was produced by electrical stimulation.

EXPERIMENTS WITH ATROPINE.

XIII. Cat, decapitated. Both eyes were emmetropic. Electrical stimulation did not produce myopic refraction or accommodation. The superior oblique of both eyes was advanced without altering the refraction, and electrical stimulation then produced accommodation. The third and fourth nerves were exposed near their origins in the brain. Electrical stimulation of either nerve produced accommodation. A small piece of cotton wet with a two per cent. solution of atropine sulphate in 0.8 per cent. chloride of sodium solution was placed in contact with the third nerve near its origin. In less than one minute an electrical stimulation of the third nerve did not, while stimulation by electricity of the fourth nerve, did produce accommodation. After the atropine solution was applied to the fourth nerve, electrical stimulation of the fourth nerve did not produce accommodation. The origins of the third and fourth nerves were washed with an 0.8 per cent. salt solution, clean of atropine. After this, electrical stimulation of either nerve produced accommodation. Cotton wet with atropine solution was next applied to the fourth nerve and electrical stimulation did not produce accommodation, although accommodation was possible through stimulation of the third nerve. The atropine was again applied to both nerves, and electrical stimulation of either or both failed to produce accommodation. The atropine was then washed off the nerves and the experiment repeated with the same results as before. Always after atropine was applied to both nerves and electrical stimulation of one or both failed to produce accommodation, the application of the electrical current to the eyeball resulted in accommodation or myopic refraction. Accommodation was produced two hours after the cat was decapitated in a room at a temperature below 70° F.

XIV. Dog, emmetropic. Electrical stimulation produced myopic refraction or accommodation. After tenotomy of the superior oblique, electrical stimulation produced hypermetropia of 4 D. S. After the subconjunctival injection deep in the orbit of five minims of a two per cent. solution of atropine sulphate in 0.8 per cent. chloride of sodium, there was no change in the refraction upon electrical stimulation; in other words, atropine injected deep into the orbit prevented the production of hypermetropic refraction by electrical stimulation.

XV. Rabbit with hypermetropia of 4 D. S. atropine sulphate two per cent. solution instilled in the conjunctival sac daily for two weeks, did not change the refraction. Electrical stimulation produced myopic refraction or accommodation to the same degree apparently as before the atropine was instilled.

From this and other experiments the impression was obtained that the instillation of atropine in the conjunctival sac had little or no effect in preventing accommodation by electrical stimulation. In other experiments on normal eyes and eyes with hypermetropia the injection of atropine deep into the orbit usually prevented accommodation or myopic refraction by electrical stimulation.

TRACTION EXPERIMENTS.

XVI. Decapitated carp, emmetropic. A thread was fastened to the insertion of the superior oblique. Traction of the thread inward and forward, or downward and forward, produced simple hypermetropia which was corrected by convex 5 D. S.; traction backward and inward caused simple myopia; while traction in the plane of the iris produced mixed astigmatism. Myopia, myopic astigmatism, compound myopic astigmatism, hypermetropia, hypermetropic astigmatism, compound hypermetropic astigmatism, or mixed astigmatism were all produced by traction on the thread in various directions.

XVII. Decapitated carp, emmetropic. Rotation downward and inward or in other directions with the aid of a suture fastened to the external rectus produced no change in the refraction of the right eye. Pulling strongly on the suture forward produced hypermetropia, which was corrected by convex 5 D. S. Traction downward and forward and inward produced hypermetropic refraction which was corrected by convex 3 D. S., and convex 7 D. C. at 90°. Electrical stimulation produced an error of refraction which was corrected by convex 14 D. S. and concave 16 D. C. at 180°. After a tenotomy of the superior oblique, the error of refraction was corrected by convex 3 D. S. and 7 D. C. at 90°. Electrical stimulation then increased the hypermetropia in all meridians, which was corrected by convex 10 D. S. and convex 6 D. C. at 90°. After tenotomy of the superior rectus the hypermetropia disappeared and the eye became emmetropic. Electrical stimulation then produced no effect.

The point has been raised that while in rabbits, dogs, fishes, and other animals, traction of the two obliques may squeeze the eyeball transversely in such a way as always to lengthen it, accommodation in the human eye cannot be produced in the same way. To determine the matter the following observation was made: A woman with myopia of 20 D. S., who consented to the experiment, had the inferior oblique exposed near its origin at the lower and inner part of the orbit by an incision through the lower lid. The tendon was grasped by fixation forceps and traction was made downward, inward, and backward. By simultaneous retinoscopy the myopia was found increased, indicating the production of myopic refraction or accommodation. This observation proved that accommodation can be pro-

duced in the human eye by traction of the inferior oblique.

Lucien Howe (*Muscles of the Eye*, 1, p. 68) has described the reflections from the cornea and posterior surfaces of the lens when the lens was tipped in various directions during accommodation. I have found that traction on the obliques or recti of the eyes of dogs, cats, rabbits, and fishes produces the same phenomenon, of tipping of the lens out, in, forward, or backward, which indicates that the symptoms of tipping of the lens that are assumed to be due to the action of the ciliary muscle can be produced by the action of the extrinsic muscles. I believe that the ciliary muscle has nothing whatever to do with tipping of the lens, because after tenotomy of one oblique and one of the recti, the phenomena of tipping were not observed after electrical stimulation as they were before.

Curvature of cornea. In rabbits the ophthalmometer indicated that accommodation was usually produced without changing the curvature of the cornea. The results were so constant as to warrant the belief that in the rabbit, as has been demonstrated in the human eye by Javal and others, accommodation is not produced by a change in the corneal curvature.

Ciliary muscle. Much has been written on the connection of the ciliary muscle with the production of accommodation. The theories of Helmholtz, Müller, Hess, Tscherning, and others are well known. They are based largely on the changes which occur in the images of a source of light reflected from the anterior and posterior surfaces of the lens during accommodation. These images of Purkinje were studied in the eyes of rabbits, dogs, cats, and fishes before and after the production of accommodation by electrical stimulation. The same changes were observed at times, as have been described by observers who studied the human eye. It was possible also by traction experiments, by varying the resultant of pulls on the eyeball, to obtain images which indicated various changes in the position and curvature of the lens. Fishes' eyes, when examined after immersion in water, were favorable for the experiments because the reflections from the cornea were eliminated and it was easier to see the reflections from the anterior and posterior surfaces of the lens. After tenotomy of one or both obliques the images of Purkinje did not change their location on electrical stimulation of the eyeball, indicating that the curvature or location of the lens was not altered. The experiments offered strong evidence that the ciliary muscle is not a factor in changing the curvature of the lens during accommodation. They also reconciled the conflicting observations and theories of the many observers.

Bier's experiment. Theodore Bier (Die Accommodation des Auges in der Thierreihe, *Wiener klinische Wochenschrift*, 42, 1898) has stated that fishes' eyes when at rest are myopic and that in order to see distant objects clearly, the myopia is corrected by drawing back the lens closer to the retina with the aid of a muscle inside the eyeball connected with the lower margin of the lens. My experiments and observations disprove his theory. Fish can accommodate or adjust the focus to see distinctly at four inches, and this power of accommodation is always lost after a tenotomy of one oblique muscle. Electrical stimulation always produces myopic refraction when both of the obliques are present and active, and this is never produced in fishes which have but one oblique, but after a suture is inserted in the usual location of the absent oblique to furnish countertraction, electrical stimulation which contracts the oblique which is present has always produced accommodation. (See dogfish observation and Experiment IV.) The removal of the lens does not prevent accommodation by electrical stimulation.

II. OBSERVATIONS ON THE EYES OF HUMAN BEINGS.

A large number of original observations on the eyes of adults and children with normal vision, on those with defective sight from errors of refraction, and on the eyes of adults after removal of the lens for cataract, and a study of the phenomena of sight in amblyopia ex anopsia, have tended to support the foregoing results from animal experimentation and have led to the following conclusions with reference to the human eye:

The sole cause of all uncomplicated or functional errors of refraction is a conscious or an unconscious effort or strain to see. The only remedy for this strain is relaxation. Relaxation or rest of the eyes is accomplished only by central fixation. These facts were obtained both objectively, with the aid of the retinoscope, ophthalmoscope, and ophthalmometer; and subjectively, from the testimony of the persons under examination.

The optic or visual axes are always parallel when a point at an infinite distance is regarded by each eye at the same time by central fixation. Muscular insufficiency or heterophoria is then always absent.

The lensless eye. After the lens was removed for cataract and the refraction for infinity was corrected by glasses the following observations were made: In all cases when the eye regarded a small letter of the Snellen test card at twenty feet by central fixation, simultaneous retinoscopy indicated that the glasses corrected the refraction. When a small letter was read by central fixation at twenty inches, simultaneous retinoscopy indicated that the eye was accommodated and that the myopic refraction or accommodation was corrected by a concave twenty inch spherical lens or minus 2 D. S. When the lensless eye with the distance glasses read a small letter by central fixation at thirteen inches, at ten inches, or a less distance, simultaneous retinoscopy always indicated that the eye was accurately focused. When the lensless eye read a small letter of the Snellen test card at twenty feet by eccentric fixation, simultaneous retinoscopy indicated either myopic refraction in one or all meridians or that the distance glasses were too strong. When a letter was regarded at twenty inches or less by eccentric fixation, simultaneous retinoscopy always indicated that the eye was focused for a greater distance in one or all meridians. In the lensless eye an effort to see near always produced hypermetropic refraction.

Central fixation. By central fixation is meant the ability of the eye to look directly at a point, and while doing so to see best with the centre of the fovea or the centre of the sight of the retina. When a person with a normal eye which is capable usually of reading the Snellen test card at twenty feet with

normal vision 20/20, regards one small letter of the Snellen test card at twenty feet or regards one letter of diamond type, Jaeger No. 1, at a near point, say ten inches, by central fixation the following phenomena become manifest.

Subjective: By central fixation maximum vision is obtained. While the ability of the normal eye to read the twenty line at twenty feet in a good light

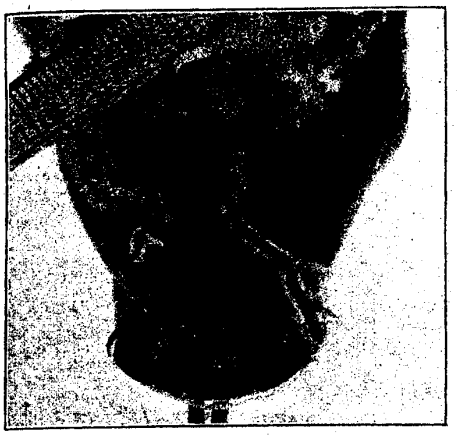


FIG. 1.—Carp with eyeball of normal length and emmetropic.

is considered to be normal vision, a much greater acuity of vision is observed when the part of each letter that is regarded and seen better than the rest of the letter is smaller or more nearly approaches a point. Letters or parts of letters outside the point of fixation are always less distinct than those at the fixation point. When the top of a small letter at twenty feet is regarded by central fixation the bottom of the same letter appears less black, but the whole letter is clearer, the black appears a darker shade of black, and the white part of the letter appears whiter than when all parts of the letter are seen equally well. The eyes feel no strain when regarding a small letter for a short time or continuously at twenty feet, or when regarding one letter of diamond type at twelve inches, six inches, or a less distance, from the eye. Squinting, or partly closing the eyelids, or regarding a letter through a small opening, always lowers the vision of central fixation.

Objective: Simultaneous retinoscopy, or the examination of the eye with the retinoscope at the same time that the eye is regarding a distant or near letter, indicates always that the eye is accurately adjusted or accommodated for the point regarded by central fixation. In other words, when the point fixed is at infinity, no error of refraction is manifest and the eye is emmetropic. When the point is at four inches, the refraction of the eye is corrected by a concave four inch spherical lens—minus 10 D. S. The ophthalmometer indicates no corneal astigmatism of the normal eye when regarding a distant or near letter by central fixation. The appearance of the normal eye when regarding a distant or near letter by central fixation, is usually expressive of rest or relaxation. The eye is open, quiet, with no nervous movements, and the pupil is moderately dilated. The muscles of the face are generally in repose, while other muscles of the body appear also relaxed and at rest. The optic or visual axes are always parallel when a point at an infinite distance is regarded by each eye at the same time by central fixation. Muscular insufficiencies or heterophoria are always absent.

Eccentric fixation. By eccentric fixation is meant the ability of the eye partially or completely to suppress the vision of the centre of the fovea and to see best with other parts of the retina. When a person with normal vision regards one small letter of the Snellen card at twenty feet, or regards one letter of diamond type at six, ten, twenty inches, etc., by eccentric fixation, the following phenomena become manifest.

Subjective: The person notes that the vision for letters or words is always less distinct than with central fixation, not only for the letters or words regarded, but also for those seen better in other parts of the field. One part of a letter fixed or regarded is less distinct than other parts of the same letter not fixed or regarded. Black letters appear less black than by central fixation; white letters on a black background appear less white; letters of different colors have a lighter shade of color. The edges of the letters are not clean cut and have a fuzzy or shadowy margin. The size of letters is altered; they appear larger or smaller than with normal vision. Their shape is distorted: a square letter may seem to be round. The curved lines may appear more like straight lines or straight lines as if somewhat curved. Illusions of sight occur; in some cases dark spots or irregular shapes are seen on a

FIG. 2.—Same as Fig. 1, but with hypermetropia produced by advancement of the external and internal recti. Note that the eyeball is shortened.

white background. Polyopia is frequent; sometimes it is binocular, but usually it is monocular. With both eyes or with one eye covered a person with normal eyes when regarding one letter at twenty feet or six inches or at any distance by eccentric fixation, may describe the location of two, three, or four images, all of which are less distinct than the

one image of the same letter seen by central fixation.

Pain, fatigue, tension, or discomfort of some kind is usually felt in the eyes during eccentric fixation. The discomfort may become manifest only after the eyes are closed. Headaches are frequently produced by eccentric fixation when regarding a distant letter or a letter at the reading distance.

An important symptom is twitching of the muscles of the eyelids or of the eyeballs. It is always present when a letter is regarded by eccentric fixation either at twenty feet, six inches, or any distance from the eyes. Usually it is an unconscious manifestation of eccentric fixation. The twitching becomes evident when one lightly touches the closed eyelids of one eye while the other eye is regarding a letter by eccentric fixation; a fluttering or intermittent movement of the eyelids or of the eyeball is then felt. Squinting or partly closing the eyelids or regarding a distant or near letter through a pinhole opening in a card, always improves the vision of eccentric fixation.

Objective: When a small letter of the Snellen test card at twenty feet is regarded by eccentric fixation, simultaneous retinoscopy always indicates myopic refraction in one or all meridians. When a small letter of diamond type is regarded at twenty inches or less by eccentric fixation, simultaneous retinoscopy always indicates hypermetropic refraction in one or all meridians. The ophthalmometer usually indicates corneal astigmatism during the time the normal eye regards a distant or near letter by eccentric fixation. The ophthalmoscope reveals an important symptom of eccentric fixation: the eyeball always moves at irregular intervals from side to side, vertically or in other directions. The appearance of the normal eye when regarding a distant or near letter by eccentric fixation is usually expressive of effort or strain. Twitching of the muscles of the eyelids can usually be observed and may be more evident immediately after the eyelids are closed. Often the movements of the eyeball become so extensive as to be manifest by ordinary inspection; in some cases they are sufficiently marked to resemble nystagmus.

The optic axes in eccentric fixation are never parallel; convergent, divergent, or vertical squint is noted. Lesser degrees of lack of balance of the eye muscles, muscular insufficiencies, are always present.

Eccentric fixation produces redness of the ocular conjunctiva and margins of the lids. Wrinkles of the forehead and dark circles under the eyes appear. The eyes may water.

The optimum. When a person with myopia, hypermetropia, or astigmatism, regards a certain letter or object under favorable conditions, simultaneous retinoscopy reveals little or no error of refraction. The letter or object so regarded may be called the optimum. The favorable conditions include proper or sufficient illumination and quiet. The optimum may be a telegraph wire, a distant light, a crack in the floor, a small area of blue, green, or dark blank wall paper, a large or small white card, a hole about one half inch in diameter in a Snellen or other large card, the vertical or horizontal edge of the face or back of the Snellen card, a blank spot about one half inch in diameter on a blank white card, a certain number, which is most frequently the number 7, one letter of the alphabet, or the face of a well known relative or friend. Usually, but not always, a small letter of the Snellen card, as the first or last letter of the tenth line regarded at five, ten, or twenty feet, is an optimum. An optimum for one eye may not be an optimum for the other eye or for both when regarding it at the same time. Furthermore, an optimum is seldom continuous—while regarding it on one day may lessen or correct the refraction this fact may not be true on succeeding days. It may be lost and later regained. The number of optimums discovered in each person is variable. It is well to know that the distance of the optimum from the patient is important, since an object which is an optimum at twenty feet may not be one at ten or thirty feet. Looking at an optimum is usually restful, but the patient may not be conscious of any relief. The vision may become normal for the object regarded, but generally, although no error of refraction is manifest by simultaneous retinoscopy, the vision is not normal. The following three cases illustrate these facts:

A man with myopia of 2 D. S. who had vision of 20/70 was able to see clearly the letter K on the fifteenth line and the letter K only on the fortieth line. When he regarded the letter K on the fifteenth line, by simultaneous retinoscopy he was not myopic, but when he regarded other letters on the same card he was myopic.

A woman, aged sixty years, with myopia of 18 D. S., was not myopic when she regarded a letter O on the tenth line at ten feet.

A child, aged four years, when he regarded the face of a stranger at ten feet, was myopic by simultaneous retinoscopy, but when he regarded the face of his mother, simultaneous retinoscopy indicated no myopia.

TREATMENT.

As a general rule it is best for the patient to discard glasses. In some cases of extreme myopia, where going without glasses entails too great a hardship, good results have been obtained by gradually reducing the strength of the glasses worn as the vision improves, but the treatment is then prolonged. The patient is told that all cases of uncomplicated myopia, hypermetropia, and astigmatism are caused by eccentric fixation and that central fixation is necessary for a cure. He is told the meaning of the terms used, and the symptoms of eccentric fixation manifest in his own case are demonstrated. Not only at the beginning of treatment, but also at frequent intervals, by constant repetition, by frequent demonstration, and by all means possible, the fact is impressed upon him again and again that perfect sight or a cure can be obtained only by relaxation or no strain whatever, which in turn can be obtained only by central fixation. Nothing else matters. The idea that the treatment demands effort is eliminated as much as possible. The fact is repeatedly emphasized that the exercises of the eyes are not work or effort, but rather that everything recommended is to secure physiological rest of the eyes, a condition which is found only with central fixation and perfect vision. Young children respond more promptly to the benefits of eye training than adults; not because their trouble may be more recent, which is not always true, but rather because they usually do as they are told and do not lose

time by useless experiments suggested by their own inclinations or by other persons.

Before central fixation and normal vision can be obtained, it is necessary to stop the twitching of the eyelids and the movements of the eyeball that result from the strain of eccentric fixation. One method which succeeds in a small proportion of cases is to

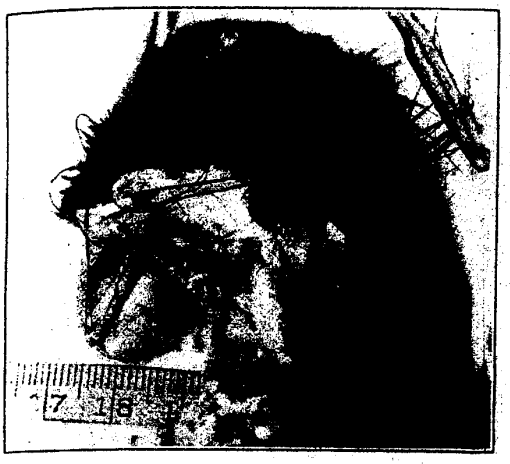


FIG. 3.—Rabbit with eyeball of normal length.

make the patient conscious of the movements. After regarding the Snellen test card with one or both eyes for a part of a minute, the eyes are closed, and when the closed eyelids are lightly touched by the patient with his fingers, he may frequently feel the movements. In some cases the strain, tension, or twitching is evident to the patient without touching the closed eyelids, or it may become apparent to him while the eyes are open when trying to read the Snellen card. Another method to stop the twitching and one which usually succeeds is to have the patient close the eyes and then press on the sides of the base of the nose as high as the inner canthus and also a little above it, with the forefingers of each hand, avoiding pressure on the eyeballs. The pressure may need to be applied continuously for some minutes or for a longer period. The value of the method should be emphasized. After it was repeatedly employed some well marked cases of nystagmus were observed to disappear for a longer or shorter time. Twitching of the eyelids and movements of the eyeball are always corrected by central fixation when regarding a distant letter at twenty feet or a small letter at twenty inches or nearer. It is well to bear in mind constantly that twitching of the muscles of the eyelids and movements of the eyeball always prevent central fixation for both near and far distances. In the beginning the use of the Snellen test card should be discontinued at frequent intervals in order that time may be given to stop the twitching.

The following procedures are recommended for obtaining central fixation: The patient is told to look at a light at twenty feet or greater distance, then to look a foot or further to one side of the light until it appears less bright. By practice and by increasing or lessening the distance of the point fixed to one side, the patient may soon become convinced that the light is seen best by looking straight at it.

After central fixation is obtained for the light, the patient practises with the aid of the Snellen test card. The patient regards the top of a letter of the Snellen test card, a letter which is just barely distinguished or seen with some difficulty. If the bottom of the letter does not appear more indistinct than the top, the eye is not regarding the top of the letter by central fixation. The eyes are then to follow a pointer upward from the top of the letter until the bottom becomes more indistinct. This is repeated many times. After some practice, the patient will note that with the pointer a shorter distance above the top of the letter the bottom of the letter appears less distinct. Continued practice usually improves the ability to fixate so that the patient gradually becomes able, by looking directly at the top of a letter, to see it blacker or more distinct than other parts of the letter which are not fixed. The patient notes that after he becomes able to see the top better than the bottom, the whole letter is more distinct than in the beginning, when all parts appeared of the same shade of black. At first the letter may be seen by central fixation only occasionally. Later he may see it more frequently, until finally he becomes able to see a spot in the top of a letter better than the bottom of the same letter, and continuously. When one part of a letter is seen better than all other parts, the eyes are at rest, and most persons at once become conscious of the relief to the eyes after central fixation, and maximum vision is obtained. It is easier to obtain central fixation by regarding small rather than large letters and

FIG. 4.—Same as Fig. 3, but with myopia produced by advancement of both obliques. Note that the eyeball is lengthened.

the patient should practise with the small letters on the tenth line at more than ten feet from his eyes.

It is usually difficult to obtain central fixation at a near point, e. g., less than twenty inches, than at a distant point, such as twenty feet. A dot of about the size of a pica type period on a blank card is regarded at twelve inches and its clearness is noted

with both eyes. The dot is then regarded with each eye separately. It is then held nearer and further off until the distance is found where it appears clearest with both eyes or with each eye separately. The patient, by practising in this way with the dot on the blank card, soon becomes able to see it quite clearly nearer and further than at the beginning. The patient is then given diamond type, Jaeger No. 1, to read. He is recommended to gaze at a period at a distance he can see it best with both eyes or each eye separately, and is told that when he sees it by central fixation the period will appear blacker than any part of a near letter and the part of the nearest letter closest to the period will appear as the blackest part of that or any other letter. The distance may be lessened to three inches and increased to twenty inches or more from the eyes by daily practice extending over many weeks or months. The ability to see one part of a small letter improves the vision for reading and affords a rest to the eyes. By alternately regarding diamond type by central fixation at the reading distance and the Snellen test card at twenty feet in the same way, the vision for near and far distance is improved. This method is usually successful in curing myopia, hypermetropia, and astigmatism.

Relapses usually occur unless the training of the eyes is continued daily for months or years after normal vision is obtained. It is necessary even for the normal eye to practise normal vision frequently, consciously or unconsciously, or some error of refraction is usually acquired. The normal eye always acquires myopic refraction when trying to see unfamiliar distant objects; while an effort to see near always produces hypermetropic refraction (Fig. 2). The liability of a patient to relapse should be emphasized or his disappointment is probable. The following cases illustrate the value of the treatment:

Compound hypermetropic astigmatism: A woman, aged thirty-seven years, had vision of 20/100, with convex 3.50 D. S. and convex 2 D. C. 90°; in each eye her vision was 20/30. She had worn glasses twenty years for the relief of defective vision, eye pain, headaches, and fatigue when reading. Her symptoms were not entirely relieved by her correction. After two months' treatment by education in central fixation for distance and near, her vision improved to 20/15 in each eye without glasses. She read Jaeger No. 1 at four inches and twenty inches. The subjective symptoms of headache, eye pain, and asthenopia disappeared. I believe that she will need to continue the eye training daily for a number of years to prevent a relapse.

Myopia, squint, and amblyopia: Man, aged twenty-four years, right vision 18/200, with concave 2.50 D. S. 18/15, left vision 18/100; glasses caused no improvement; with both eyes open, the left eye turned in, which is an unusual condition; convergent squint, the fixing or straight eye being myopic with less vision, while the amblyopic, emmetropic eye converged, although the vision was better. The use of atropine sulphate one per cent., instilled three times a day for a week did not alter the refraction or improve the squint or vision. Eye training by the methods suggested above was followed by relief in one month, when the vision became normal in both eyes, without glasses and the eyes became straight with binocular single vision. The patient was advised to continue the use of the Snellen card daily for some years to prevent a relapse.

Presbyopia. Since the lens is not a factor in the production of accommodation, the theory that presbyopia is caused by a hardening of the lens is not true. In patients over fifty years old with normal eyes, hypermetropia or other errors of refraction are curable. The cure of presbyopia is accomplished by eye training which secures central fixation. The patients are taught to regard the letters of the Snellen test card, the smaller letters first at ten or twenty feet, in such a way that they see a small part of each letter blacker or more distinct than the rest of the letter. After normal vision is obtained for distance, the eye training is continued for small letters at the reading distance. A period or comma is selected. The patient regards a letter near the period or looks further away until he can appreciate that the period is less black or worse. He then regards a letter nearer the period. The distance from the period is shortened, until by practice the patient can make the period appear less black by regarding a point but a very short distance away, the diameter of a small letter. He can now read the print. Then he is encouraged to practise holding the fine print closer to his eyes until he can read at four inches Jaeger No. 1. Some patients are relieved in a few days. Permanent relief is never obtained, without constant or daily practice, reading diamond type without glasses at four inches to twenty inches. Patients sixty, seventy, and eighty years of age have obtained relief in a short time. The efficiency of the eye is very much increased, and one reads more rapidly than with glasses and without pain or fatigue.

The prognosis in acute cases where glasses have never been worn or in cases not relieved of every discomfort by the aid of glasses, is favorable, and a cure is usually obtained in a reasonable length of time, such as a few weeks or months. In one case convex 2 D. S. and concave 5 D. C., 180°, in each eye under atropine, the patient obtained normal vision for distance by training of the eyes, and simultaneous retinoscopy revealed then no error of refraction. It was an interesting fact to me that in this case the eyes became normal, although atropine was instilled in the conjunctival sac three times daily. How could the hypermetropia disappear under atropine? The animal experiments answer this question satisfactorily to me, for it was learned from them that atropine, when injected deeply into the orbit, prevents the production of hypermetropic and myopic refraction by electrical stimulation. Other cases could be cited. In general, all errors of refraction are benefited promptly. When the optimum is found, the problem is to teach the patient to make all objects an optimum. Until this has been accomplished no case has ever been permanently cured.

SUMMARY.

Animal experiments demonstrate:

1. The lens is not a factor in the production of accommodation;

2. Hypermetropic refraction is always produced by a strain of two or more of the recti by electrical stimulation or advancement, and is always prevented by relaxation of these muscles by tenotomy;

3. Myopic refraction is always produced by a strain of two obliques and is always prevented by relaxation of these muscles by tenotomy;

4. Atropine prevents, when injected deep into the orbit, the experimental production of errors of refraction;

5. The cause of all errors of refraction is a strain

to see. The cure is accomplished by relaxation. Relaxation is secured by central fixation.

The subjective symptoms of central fixation include the ability to see one part of a letter or other object better than the rest of it; maximum vision is thus obtained and the eyes feel at rest. The objective symptoms indicate no error of refraction by simultaneous retinoscopy and no corneal astigmatism by the use of the ophthalmometer, while the optic axes are parallel, with no squint or muscular insufficiencies (heterophoria).

The subjective symptoms of eccentric fixation include the ability to see letters or parts of letters better outside the point regarded; the vision is always defective; monocular polyopia is frequent; and pain and fatigue are usually felt. The objective symptoms always indicate an error of refraction by simultaneous retinoscopy, usually some corneal astigmatism by the use of the ophthalmometer; the optic axes are seldom parallel, squint heterophoria, or muscular insufficiencies being present.

The refraction of newborn children is not always permanent. All errors of refraction are produced by muscular action and are usually acquired.

Observations of the lensless human eye indicate that the absence of the lens does not prevent the production of errors of refraction by a strain of the extrinsic muscles.

The optimum is a letter or some other object which can be regarded with a minimum of strain, and when looking at such an object the patient has no error of refraction by simultaneous retinoscopy.

In treatment, discard glasses as soon as possible. Educate the patient in the fundamentals. To stop twitching of the eyelids by pressure on the sides of the base of the nose is important. Central fixation is obtained by eye training with the aid of the Snellen test card at twenty feet and by alternately practising central fixation with a dot or a fine point at twenty inches or nearer.

The results are good. After central fixation is obtained, all errors of refraction are cured.

40 EAST FORTY-FIRST STREET.

URINARY LITHIASIS.*

Reports of Cases from the Author's Clinic during 1914.

BY VICTOR COX PEDERSEN, A. M., M. D., F. A. C. S.,
New York,
Associate in Urology and Chief of Clinic in Urology for Men, Women, and Children, St. Mark's Hospital.

Each of the following cases of urinary lithiasis, examined and treated during the year 1914 at the author's Clinic in Urology for Men, Women, and Children, at St. Mark's Hospital, has particular features somewhat different from those of its fellow cases and, therefore, possesses considerable interest.

CASE I (10634). M. de L., first seen January 6, 1914; single; musician; aged sixteen years. Diagnosis: Multiple vesical calculi. Family history, negative for syphilis, cancer, tuberculosis, or lithiasis. Past personal history: Denied intercourse and venereal disease. Present personal history: As far back as he can remember, suffered pain along the urethra during and after micturition, increased by exertion and walking. Blood in the urine had been seen on several occasions, and sand was passed about two years previous to his first call. Diurnal urination increased in frequency and nocturnal calls two or three in number. During urination stream suddenly stopped with acute pain and after effort resumed. Urinary examination: January 8th, cloudy, specific gravity 1017, hyperacid, no albumin, urea 1.8 per cent., no red blood cells, few pus cells, large number of calcium oxalate crystals, and a few flat epithelial cells. General physical examination: Negative. Exploration of the urethra revealed a very small meatus through which the cystoscope could not be passed. After much persuasion a meatotomy was submitted to, and cystoscopy performed, January 27, 1914, which revealed in a practically normal bladder three gray calculi, about the size of a boy's marbles, almost in a straight line back of the interureteric fold and rather more on the left than the right side. They were, therefore, in the typical position in the subperitoneal quadrant of the bladder. The patient doubted this diagnosis, but agreed to accept it if an x ray photograph corroborated the findings. This was done on January 29th, and three large calculi were shown in a row exactly as described, together with ten or twelve other shadows also suggesting smaller stones. There was no evidence of calculi in the ureter or kidney of either side. The findings of the cystoscope, the operation, and the subsequent course of the case all proved that these additional shadows must have been outside the urinary apparatus. The bottle marked "No. 1" in Fig. 6, shows the products of these stones at the time of the operation. Very little of the sand and fragments were lost because the irrigating fluid was passed through a towel, from whose surface the pieces were carefully taken.

Operation, January 30, 1914, litholopaxy with the Chismore lithotrite and evacuators, under ether, without difficulty or incident and with uneventful recovery. Discharged February 1, 1914. Present condition: This patient was seen again and cystoscoped on February 27, 1915, and found to be entirely free from subjective or objective signs of recurrence. He was carefully told to report for observation several times a year, and to follow bland and simple diet and abstinence from alcohol which in his case is important because of his Italian birth and habits of life.

The features of this case are the three stones, the long history, the youth of the patient, the comparatively little disturbance of the bladder, due, perhaps, to the round and smooth surfaces of the calculi, and to the absence of deformity or disease in the bladder. Recovery, therefore, without permanent lesion of the viscus, is inevitable, but the foregoing precautions against the formation of other stones must be followed.

CASE II (53,078). M. K., referred by Dr. Benjamin T. Tilton, first seen, October 31, 1914, married, one child; tailor; aged twenty-two years. Family history, negative for any chronic disease. Past history, chicken pox during infancy, otherwise surgically and medically negative, except for gonorrhea three years ago, of which he said he was cured. Appetite and bowels normal. Married one year ago, one healthy child. Present history: During August, 1914, was suddenly seized with colicky pain, acute, always over right lumbar and inguinal regions, which radiated to the penis, associated with vomiting, chills, and sweats. Physician ordered hot packs and within twenty-four hours gave relief. Had a similar attack in September, several in October. Last week patient had three similar attacks (acute radiating pain, vomiting, chills, and sweats) painful micturition. No blood in urine. Frequent urination in small quantities. No jaundice. Urinary examination, November 2, 1914, specific gravity 1025, acid, cloudy, heavy trace of albumin, no casts, no pus, large number of red blood cells, also epithelium from the ureters and kidneys.

An x ray photograph was taken in Case II October 12, 1914, by Bendiner and Schlesinger, for Dr. Solomon Ganz (Fig. 2). The arrow points to a shadow just below the sacroiliac synchondrosis on the right side. Its position illustrates the fact that stone in the higher part of the pelvic portion of the

*Read before the genitourinary section of the New York Academy of Medicine, April 21, 1915.

The North Adams Evening Transcript. 31 Dec 1900.

NEW ENEMY OF DISEASE

Sheep's Gland Used as a Help to Mankind.

IDEAL STIMULANT OF THE HEART.

Organ of Unknown Function Discovered to Be Most Powerful Astringent Known—Relieves Congestions and Localizes the Effects of Cocaine and Is Not an Anæsthetic.

The gentle sheep of the meadows and plains has given to man a gland which, it has been discovered, localizes the use of cocaine, is the most powerful astringent and hemostatic known, relieves congestion of the mucous membrane, is valuable in inflammations and is the strongest known stimulant of the heart, says a Chicago dispatch to the New York Herald.

Dr. W. H. Bates of New York is one of the pioneers in the six years' experiments with this gland, which is the suprarenal, and a packing firm in Chicago has aided in the experiments and brought the gland and its powerful properties to the notice of the medical profession. Scientifically the discovery is attracting widespread attention not only among Chicago practitioners, but in all parts of the world.

The gland is found in the sheep just above the kidneys and is about seven-eighths of an inch in length. What function it performs for the animal is not yet known. This gland is removed, properly treated and supplied to physicians, surgeons and dentists in the form for making what is known as the aqueous extract of the suprarenal gland.

Its value in localizing the effects of cocaine used in the extraction of teeth is said to be extraordinary. When cocaine is injected into the gum to prepare a tooth for pulling, its effect spreads to other parts of the body, often to the temporary injury of the patient. Application of the suprarenal aqueous extract after the cocaine is injected acts as an adjuvant in securing anæsthesia. The deadening effect of the cocaine is confined to the tooth to be pulled. The depressing after effects of the cocaine are said to be almost entirely avoided.

Dr. Bates, who, next to Dr. Louis Dor of Lyons, France, has given to the use of the gland the most extensive study, says it is an ideal heart tonic. He states that one-two-hundredth of a grain of the extract locally applied will in a fraction of a minute replace the redness of certain inflamed eyes with a condition whiter than normal.

The suprarenal extract is not a poison. It is asserted that no untoward effect has ever followed the local or internal administration of the untainted gland. Two pounds of fresh suprarenal aqueous extract have been swallowed without any apparent ill effects.

This sheep's gland extract, when instilled into the eye, is nonirritating. Its effect is temporary. A tolerance is not established by its daily use for months. It is not cumulative, like digitalis. A suprarenal "habit" is not induced. The extract has no direct effect on the nervous system. It is not an anæsthetic. When the extract is administered hypodermically, the skin is blanched white immediately and may be incised without primary hemorrhage.

The internal use of the gland appears to be almost as important in its results as its local application. Congestion of the ear, nose, larynx and thyroid gland becomes decidedly less three minutes after the patient has swallowed five grains of the dried gland. Congestion of the lungs, heart, liver, kidneys, bowels and brain have also been promptly relieved.

Experiments have shown that the extract increases the tone of all muscular tissue. The intravenous injection of minute doses raises the blood pressure enormously, while large doses of digitalis and ergot produce no appreciable effect. The extract is very soluble in water and insoluble in strong alcohol, ether and chloroform.

Dr. Bates concludes that the discoveries with this gland determine that it is the most powerful astringent and hemostatic known. It is useful in all forms of inflammation in all parts of the body. It is the strongest known stimulant of the heart.

DR. W. H. BATES DIES; AN EYE SPECIALIST

Victim, Many Years Ago of a Strange Form of Aphasia, He Disappeared Twice.

DISCOVERED VALUED DRUG

Added Suprarenal to Field of Optic Surgery—Wrote Book, "Perfect Sight Without Glasses."

Dr. William H. Bates, a specialist in diseases of the eye, died yesterday, after a year's illness, at his residence, 210 Madison Avenue. He is survived by a widow, the former Mrs. Emily Ackerman Lierman, who had been his assistant and partner in experimental research for seventeen years before their marriage in August 1928, and by a son of the first of two earlier marriages. Dr. Bates was twice a widower.

The death of Dr. Bates recalls some years ago his two strange disappearances, which medical men regarded as among the most remarkable instances of aphasia or loss of memory. In 1902, seven years after his graduation from the College of Physicians and Surgeons, when he was making his way rapidly in his profession and was at work on an important medical book, he vanished from the sight and knowledge of his friends. The day that he was last seen, on Aug. 30, he had written an affectionate, characteristic letter to his wife, who was then visiting her mother in Newport, and had sent her books and instruments from his apartment in the Lonsdale, 567 Madison Avenue.

When he failed to return to the apartment for several days the janitor informed Mrs. Bates, his second wife, who hurried to the city and began the search for her husband. Six weeks later she learned that he was working as an assistant in the Charing Cross Hospital, London, to which he had been taken as a patient. Mrs. Bates went to London, where she found her husband in an exhausted, nervous state, with no recollection of recent events. She took him to the Savoy Hotel, where he rested for two days and then disappeared again.

Mrs. Bates sought her husband on the Continent and in this country in vain, tracing every clue that reached her. She died before he was heard of again. How he was discovered and induced to return to New York and resume his practice has never been revealed in detail. According to the best version, a fellow-oculist, Dr. J. E. Kelly, found Dr. Bates, by accident in 1910, practicing in Grand Forks, N. D. A few months later the two men occupied offices together in this city, and thereafter Dr. Bates worked as hard and as successfully as he had done before his original disappearance.

The theories and methods of eye treatment used by Dr. Bates did not always accord with those of the majority of eye specialists. He was the originator of a method of treating imperfect eyesight by mental relaxation. He discovered the drug suprarenal, which has been called almost as valuable as cocaine in optic surgery. The best known of his books is "Perfect Sight Without Glasses."

The Late Dr. William H. Bates.

To the Editor of The New York Times:

The press notices upon the death of Dr. William H. Bates failed to give adequate consideration to the truly significant aspects of the career of a man whose unique achievements have not yet been properly understood or generally appreciated.

Meager attention has been given to his priority in the therapeutic application of adrenalin and to his immensely important researches concerning the influence of memory upon vision.

His verification, by every known scientific means, of the fact that the normal fixation of the eye is central, and never stationary, but, on the contrary, constantly unsteady, either swinging or shifting in every direction, and his successful application of this principle to the treatment of eye strain symptoms, should alone be sufficient to merit recognition among his fellow-men.

Here, after all, he but developed practically—that is, through clinical application in the field of ophthalmology—the psychological ideas of Leibnitz and Herbart and the physiological principles of Titchener and Wundt upon the existence of any moment in the consciousness, as in the retina, of a clear point in the centre and a field of increasing vagueness as it departs from that point: the so-called point of apperception.

Of course the technique which he evolved from these fundamental concepts is in direct opposition to the methods ordinarily used for the treatment of errors of refraction and their accompanying symptoms — methods based upon principles still almost universally accepted. It is not to be wondered at, therefore, that the theories and methods of Dr. Bates should have always aroused violent antagonism. But those of us who derived benefit from his new doctrines can testify to the scientific worth of their originator.

R. R. A.

New York, July 12, 1931.

National Cyclopedia of American Biography - 24: 1935. 383-4

BATES, William Horatio, physician, was born in Newark, N.J., Dec. 23, 1860, the son of Charles and Amelia (Halsey) Bates. He was graduated A.B. at Cornell university in 1881 and received his medical degree at the college of physicians and surgeons in 1885. Establishing a practice in New York city, he served for a time as clinical assistant at the Manhattan Eye and Ear hospital and was attending physician at Bellevue hospital, 1886–88, the New York Eye infirmary, the Northern dispensary and the Northeastern dispensary, 1886–98. He was an instructor in ophthalmology at the New York Post-Graduate medical school and hospital, 1886–91. In his professional work Bates at first devoted his attention to the various organs of the head but finally restricted himself to the eye alone. He resigned his hospital appointments in 1896 and for several years engaged in experimental work. After practicing for several years at Grand Forks, N.Dak., he returned to New York and was attending physician at the Harlem hospital during 1907–22. In his researches Bates proved experimentally that the normal fixation of the eye is central, but never stationary, and the technique developed by him

for treating imperfect eye sight without the use of glasses was based on this principle. From a physiological point of view, this technique was but the practical application of the psychological theory of the field of consciousness, which is predicated as a point of focus, the so-called point of apperception, surrounded by a field of increasing vagueness. His method was to develop central fixation by training the patient in the dual art of relaxing and focusing the eyes. While carrying on his experiments he developed a method of photographing the eye to reveal changes in surface curvature as the eye functioned. The work is discussed in "A Study of Images Reflected from the Cornea, Iris, Lens, and Sclera" (N.Y. Med. Jour., May 18, 1918). His researches on the influence of memory upon the function of vision are described in "Memory as an Aid to Vision" (N.Y. Med. Jour., May 24, 1919). In 1894, while seeking to determine the therapeutic effect on the eye of the active principles of the ductless glands, he discovered the stringent and hemostatic properties of the aqueous extract of the suprarenal capsule, later commercialized as adrenalin. In 1896 he announced this discovery in a paper read before the New York Academy of Medicine. He introduced a new operation for the relief of persistent deafness in 1886, consisting of puncturing or incising the ear drum membrane. He published a book, "Perfect Eyesight Without Glasses" (1919), which he had to issue at his own expense, expounding his theories which were for the most part contrary to established ophthalmological practice. He also wrote articles describing his methods. He was a member of the New York State Medical Society and was affiliated with the Dutch Reformed church. He was fond of sports, especially of tennis in which he won several awards and while living in North Dakota was state champion. He was an excellent runner and at the advanced age of fifty-eight was still able to win a prize. Bates was a quiet, modest man, a serious student of literature and astronomy, with a fondness for children. He was married three times: (1) in 1883, to Edith Kitchell of New York city, by whom he had one son, Halsey Bates; she died in 1886; (2) to Margaret Crawford, who died in 1927, leaving two children, William Crawford, and Milo Bates, wife of Charles McComb; and (3) Aug. 9, 1928, to Mrs. Emily (Ackerman) Lierman, daughter of Robert Ackerman, of Newark, N.J. Bates died in New York city, July 10, 1931.

Carrying On Dr. Bates's Work.

To the Editor of The New York Times:

I wish to express my gratitude to R. R. A. for the fine tribute he paid my husband, William H. Bates, M. D., in his letter in THE NEW YORK TIMES of July 16. What he said was true. I myself have had the honor and the privilege of assisting the doctor in his research work during a period of six years at the Psysiological Laboratory of the College of Physicians and Surgeons in New York City, also working by his side for nine consecutive years at the clinic of the Harlem Hospital. I have also had the privilege of instructing students in his method of curing imperfect sight without the use of glasses. I am now going on with the work, which he left for me to do, in an educational way. There is a Bates Academy in Johannesburg, South Africa, where students of Dr. Bates are doing his work, and we have representatives in Germany, England, and in various cities throughout the United States.

EMILY A. BATES.

New York, July 16, 1931.

Dedication

To Ophthalmologist William H. Bates

Dr. William H. Bates
Ophthalmologist - M.D.
Eye, Ear, Nose & Throat.
Discovered the Principles
of Eye Function-Natural
Eyesight Improvement.

William H. Bates, Ophthalmologist discovered and perfected Natural Eyesight Improvement, 'The Bates Method'. He discovered the natural principles, true, normal function of the eyes (visual system) and applied natural methods, relaxation to return the eyes, eye muscles, nerves, mind/brain, thought patterns, body (entire visual system) to natural, normal function with healthy eyes and clear vision.

The Bates Method of Natural Eyesight Improvement.

He cured; unclear close and distant vision, astigmatism, crossed, wandering eyes, cataracts, glaucoma, and other eye conditions. Natural Eyesight (Vision) Improvement was practiced years before Dr. Bates discovered it. It is the normal, natural function of the eyes. Hidden from the public by eye surgeons, optometrists, optical businesses for over 100 years because this method works, is easy, anyone can learn, teach it, including children. It produces healthy eyes, clear vision and frees the patient from the need to purchase eyeglasses, drugs, unnecessary eye surgery. Yes, it can and has reversed cataracts!

Dr. Bates worked his entire life treating people successfully with Natural Eyesight Improvement. When he cured the eyes, vision of many patients, medical students and other doctors in the hospital where he worked with natural treatments, without use of eyeglasses, surgery, drugs and proved his method is fact and that some of the old theories of eye function are incorrect, only theories; the doctors, eye surgeons that preferred to sell eyeglasses, surgery, drugs became angry and expelled him. (See: 'Reason and Authority' and 'Dr. Bates Lecture' in Better Eyesight Magazine: November, 1919, April, 1923 and Articles in his book.)

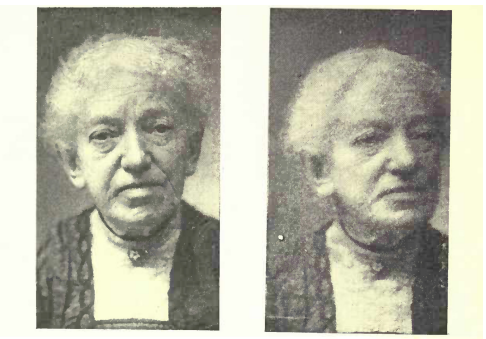


Fig. 37. Myopic Astigmatism comes and Goes According as the Subject Looks at Distant Objects With or Without Strain

No. 1.—Patient regarding the Snellen test card at ten feet without effort and reading the bottom line with normal vision.

No. 2.—The same patient making an effort to see a picture at twenty feet. The retinoscope indicated compound myopic astigmatism.

Dr. Bates then opened his own office, a Clinic in Harlem, New York City. He treated thousands of people by natural methods, including many of the poor people that had little money. He kept his price for medical treatment low and also provided no charge office visits 'Free Clinic Days' for people that could not afford to pay for a visit to an Ophthalmologist. His treatments were successful. He cured the young and old, people of all ages, nationalities, cured a variety of eye conditions.

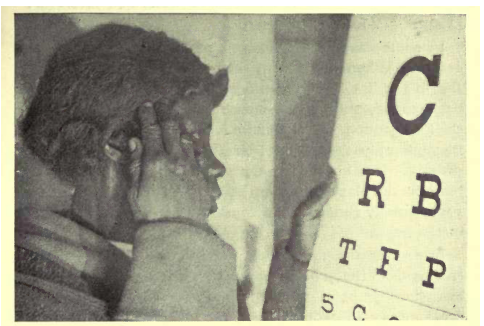


Fig. 43

Patient with atrophy of the optic nerve gets flashes of improved vision after palming.

The Bates Method is so simple and effective that many of his cured patients, 'often children' then went on to cure their friends, family, parents, teachers and other children of defective vision including crossed, wandering eyes. Read the 'true story of the two little girls that restored a blind mans eyesight' in the Oct. 1925 Magazine Issue. Read Dr. Bates full story in 'Better Eyesight Magazine' and his book 'The Cure of Imperfect Sight by Treatment Without Glasses'.

Dr. Bates recorded 11 years of work in his clinic, his patients and their varied treatments in his Better Eyesight Magazines, Books and Medical Articles. Dr. Bates Better Eyesight Magazines contain many Natural Treatments, a variety of Activities, Directions, Articles describing how Dr. Bates, Emily Lierman Bates, (his Clinic assistant, wife) and other eye Doctors, School Teachers, Bates Method Students, Bates Teachers, Children and Parents used Natural Treatments to remove, correct, prevent many different eye problems: unclear close and distant vision (nearsight, myopia, farsight, presbyopia), astigmatism, cataracts, glaucoma, conical cornea, cornea ulcers & scars, retinitis pigmentosa, wandering/crossed eyes (strabismus), amblyopia and other eye conditions. Done without eyeglasses, surgery, drugs. Dr. Bates used surgery, drugs only when necessary, (Eye injury, infection...).

The magazines contain `True Life Stories' of the doctors, assistants, patients, treatments. Interesting, entertaining, fun to read. A History book, life in the early 1900's. Vision improvement based `Fairy Stories' and other articles for children are included. The stories produce a positive, relaxed state of mind, activate,

improve the memory and imagination, teach Natural Eyesight Improvement, normal, correct eye functions. This improves the eyesight.

Dr. Bates discovered Natural Eyesight Improvement over 100 years ago - Started around the year 1886. Dr. Bates Better Eyesight Magazines, books are the original source of The Bates Method and true Natural Eyesight Improvement. The Original Better Eyesight Magazine collection is proof that Ophthalmologist William H. Bates discovered the Bates Method, Natural Eyesight (Vision) Improvement and is the True Author of the Magazine.

The Optical, Medical Industry/Association and most Eye Doctors, Opticians have hidden Dr. Bates work, magazines, books, articles, Natural Eyesight Improvement from the public for over 100 years because: The Bates Method improves the clarity of vision, eye function, Dr. Bates writings are proof that Natural Eyesight Improvement works, produces clear vision, healthy eyes, it describes, teaches people how to apply Natural Eyesight Improvement & obtain clear vision 'on their own' and prevents the need for purchasing eyeglasses, contact lenses, sunglasses, eye surgery and drugs. The Bates Method is safe, healthy for the eyes, reverses and prevents vision impairment.

After Dr. Bates death, the Optical Industry, Medical Doctors/Association destroyed Dr. Bates magazines, books, articles, removed them from libraries, schools, colleges, bookstores in an attempt to hide the truth about Natural Eyesight Improvement from the public, prevent people from curing their eyesight.

They bribed dishonest politicians, judges to pass laws preventing the public from teaching Natural Eyesight Improvement. They passed a law stating that only an eye doctor can teach the Bates Method. Most doctors refused to teach it. Ophthalmology, Optometry, Optician Colleges hid it, refused to teach it and Eye Doctors were taught in College to ignore the Bates Method. Honest eye doctors were afraid to teach it, were told that they would lose their medical license if they used it in their practice.

A few honest Eye Doctors, Bates Teachers, Students, Libraries from the 1900's - present have preserved and republished Dr. Bates magazines, books and continued to teach the Bates Method despite harassment from the Optical, Medical Industry: Emily Lierman/Bates, Dr. Harold Peppard, Cecil S. Price, Dr. William B. MacCracken, Bernarr MacFadden, Clara Hackett, Margaret Corbett, Aldous Huxley, Dr. Clara & Emery Ingham and others. (See the case of Margaret Corbett and Aldous Huxley, New York City, USA; The Optical/Medical Industry, Association brought her to court, accused her of practicing Optometry without a license. She won all cases brought against her and cured the eyesight of many people that were in the courtroom. Aldous Huxley (famous Author) was a witness for Margaret Corbett, proved to the court how she reversed his near blindness, improved his eyesight. He later wrote the book: 'The Art of Seeing'. Many people cured of unclear eyesight, cataract, forms of blindness, other conditions were witnesses.

The Optical, Medical and Drug Industry prefers to sell eyeglasses, contact lenses, dangerous destructive cornea laser eye surgery, cataract lens surgery, other eye operations and drugs. They continue to suppress, hide the Bates Method from their patients, the public.

Dishonest Eye Doctors prescribe stronger and stronger eyeglass lenses, bifocals, unneeded astigmatism sections in the eyeglass lenses, tinted/UV blocking lenses & sunglasses knowing that this causes and increases vision impairment, eye muscle tension, abnormal pressure, tension on/in the eye, retina, lens.., dependence on stronger eyeglasses and leads to development of cataracts, detached retina, other eye health impairment and thousands of dollars profit from performing cataract, retina, cornea... surgery. I suspect that some Opticians, Optometrists that sell stronger and stronger eyeglasses receive money, 'kickbacks' from eye surgeons when the business sends a patient that has developed a cataract or other eye problem, 'advanced and ready for surgery', to the eye surgeon for a operation.

Senior citizens are their main victim, 'customer', abused by their doctors, told to wait for surgery until the cataract grows large enough while the doctor sells stronger and stronger eyeglass lenses, bifocals, unnecessary astigmatism sections in the glasses, sunglasses... knowing that this practice will cause more vision impairment, increase, speed the growth, development of the cataract and prevent a natural reversal, cure of the cataract. Reading glasses, astigmatism sections in the lenses are a main cause of cataract.

A sales pitch for laser eye cornea surgery is often done after the patient's eyesight is greatly impaired from being prescribed addictive, stronger and stronger eyeglass lenses, bifocals and astigmatism lenses. When the patient feels helpless, scared, they are pressured into agreeing to eye cornea laser surgery.

Laser cornea eye surgeons destroy the health, structure of the eyes cornea knowing it will lead to a variety of eye, vision impairments, sale of eyeglasses, more eye surgery. Many patients have experienced extreme, disabling vision problems, eye pain and blindness has occurred. Patients have committed suicide, explaining to their family they would rather die than live with the greatly impaired vision, pain and poor quality of life that the laser cornea eye surgery caused. See the FDA 'Cornea Surgery Side Effects Warning' links at http://www.fda.gov & YouTube: https://www.youtube.com/watch?v=lXzqwzQo0Oc http://www.lasikcomplications.com. The law states that eye doctors do not have to tell their patients all the dangers, side effects of cornea eye surgeries. Laser surgery destroys the cornea's health, function and often results in more eye surgeries 'trying' to correct damage done by the first laser surgery. Even though the TV

news stations and newspapers receive a lot of money for advertising laser surgery, they do post reports on laser and other cornea eye surgery side effects. But the reports of eye injuries are usually hidden.

An honest eye doctor prefers to get the patient to stop use of eyeglasses, will not prescribe strong eyeglasses, bifocals, tinted, colored, UV blocking lenses, sunglasses, destructive astigmatism sections, laser... cornea eye surgery and other unnatural methods. He/she teaches the patient how to reverse, prevent unclear vision, astigmatism, cataracts and other abnormal eye, vision conditions.

Due to the truth about Natural Medicine being available to the modern public, interest in Natural Cures; Dr. Bates Better Eyesight Magazines, books, work has been recovered from individual owners, re-published and brought back to the public. Many Ophthalmologists, Optometrists are now learning, teaching the Bates Method and monitoring, recording their patients' Natural Eyesight Improvement progress.

Dr. William H. Bates Life & The Bates Method History

Dr. Bates started his career as an orthodox ophthalmologist following the old unnatural way, rules of the practice; prescribing eyeglasses... ***This 100+ years harmful method was and still is the only thing taught in eye doctor colleges.***

During his practice, working with different patients, eye conditions he realized that unclear close, distant vision, astigmatism and other eye-vision states often cured itself, reversed back to clear vision, especially when his patients stopped wearing their eyeglasses. He noticed that wearing glasses strained the eyes, mind and lowered the vision resulting in stronger and stronger eyeglass lens prescriptions being needed in order to see clear through the glasses. He began his own studies on the eye and it's function. This led him to discover that many of the old ophthalmology, optometry 'supposed facts' about the eye, lens, their function and the cause of unclear vision... are incorrect. Dr. Bates began teaching his patients to avoid eyeglasses, he removed their glasses. He taught them natural methods, including relaxation, correct use of the eyes, practice of normal, natural eye-vision function to see perfectly clear. Dr. Bates cured his own eyesight, close vision 'presbyopia'. Distant vision also clear. He wrote an article in his book, magazine describing how he did it with Memory, Imagination, Relaxation. He controlled, changed the focus of light rays in his eyes with his mind.

Dr. Bates performed experiments on the eyes, eye muscles of animals, observed the function of thousands of animal & patient's eyes under different conditions, situations, state of mind, body, thoughts and emotions. He used the retinoscope to see the refraction, focus of light rays in the eye under these various conditions. He proved that the refraction, clarity of vision changes often. When the eyes are left alone, eyeglasses avoided; the refraction, clarity returns to normal, clear vision. He proved that the state of the mind, thoughts change the refraction of the eye, clarity of vision. Example; when the mind, body is relaxed, positive, happy thoughts, emotions; the refraction is normal and vision is clear. When the mind, body is under stress, strain; the refraction is abnormal and vision is unclear. Dr. Bates discovered that the main cause of unclear vision and other eye problems is; Wearing Eyeglasses, Mental Strain, Mental-Visual Effort to See, Incorrect Vision Habits (squinting, staring, trying hard to see clear, not shifting, lack of central-fixation, low memory, imagination...). Perfect Sight occurs only with Perfect Relaxation (deep or active-dynamic relaxation; See Aldous Huxley's book; T*he Art of Seeing*). Relaxation occurs first and then the eyesight becomes clear.

Dr. Bates experiments on the outer eye muscles proved that tension in these muscles disrupts their function, the eyes' movement *shifting*, accommodation, convergence, un-accommodation, divergence, causes pressure, tension on/in the eye, alters the eyes' shape, (and lens' shape, movement), disrupts focus of light rays on the retina and lowers the clarity of vision. Circulation in the eyes is also affected.

Mental strain, stress in the mind, negative thoughts, emotions cause eye muscle tension. Neck muscle tension causes eye muscle tension. Neck tension is caused by mental strain, negative thoughts, emotions, incorrect posture, immobility, injury; vertebrae out of alignment. Inner eye muscle tension; ciliary/lens, iris, tear gland, blinking muscles... also occurs. When the mind is strained-tense, the brain and retina do not communicate, function together at optimum level. Function of the retina and vision is lowered.

Dr. Bates proved that MENTAL STRAIN causes unclear vision. RELAXATION of the mind produces clear vision. Dr. Bates used his retinoscope to show that the refraction/focus of light rays in the eye are disrupted resulting in unclear vision when a person lies. Lying causes a bit of mental strain. When the person tells the truth, no strain occurs, the refraction is perfect and vision clear. Many things can cause mental strain. Avoid eyeglasses, remove the stress, strain and vision returns to clear. Practice of Natural Eyesight Improvement can uncover old, forgotten stressful experiences, resulting in strong emotions, feelings being remembered, activated. When the memory, feelings are acknowledged, released and new positive thoughts, emotions placed into the brain, system; often the vision immediately returns to normal 20/20 and clearer. No other practice is needed. The eyes relax, move, 'shift'... correct on their own.

Dr. Bates published Medical Articles, Books describing his experiments on the eyes, eye muscles, the effect of memory on the eyes, vision and the effect of the clarity of vision on the memory: 1891 'A Study of

Images Reflected from the Cornea, Iris, Lens, and Sclera' & 'Memory as an Aid to Vision'. These Articles and others are placed in his 1920 book: The Cure of Imperfect Sight by Treatment without Glasses, Better Eyesight Magazine and his Medical Articles E-Book.
Dr. Bates created Natural Treatments, Activities to cure: reverse, correct and prevent unclear vision and other eye conditions based on his discoveries. This became know as 'The Bates Method'. Glaucoma, cataracts and other eye conditions were also reversed successfully with Dr. Bates Natural Treatments.

He made other discoveries, eye surgery inventions. Later, after he discovered the natural function of the eyes, vision, he stopped use of certain surgeries and cured the eyes-vision with his natural method.

Dr. Bates History - Dates

1860 - Born December, 23rd - New Jersey, USA.

1881 - Graduate - B.S. (Bachelor of Science) Agriculture - Cornell University in New York.

1885 - Graduate - MD (Medical Degree - Doctor of Medicine) - College of Physicians & Surgeons - Columbia University, New York.

1886 - Invented new operation for a type of deafness by incising the ear drum membrane and published article.
Published more articles on the Eye, Eye Muscles, Lens, Cornea, Cataracts, Accommodation, Myopia... from this date onward.
Discovered and published Article on properties of the aqueous extract of the suprarenal capsule, 'Adrenalin'.

1886 - First Natural Eyesight Improvement Application - Dr. Bates cures a medical student of unclear distant vision, 'Myopia' without eyeglasses, surgery, drugs.

1886 -1902 - Eye surgeon - Instructor of Ophthalmology - New York Postgraduate Medical School, Hospital. Dr. Bates teaches the other doctors, medical students to stop wearing their eyeglasses and how to cure their eyesight, myopia with Natural Methods. Dr. Bates natural treatments were successful. He states, proves the natural cure for Myopia, unclear distant vision.
(1891 - Dr. Roosa, the chief director of the institution, expelled Dr. Bates in an attempt to hide Natural Eyesight Improvement from the public and maintain the practice of solely prescribing eyeglasses, surgery and drugs.) Dr. Bates was curing patients naturally with success. Dr. Roosa tried to prevent this.
Dr. Bates then opens his own office, clinic and works for better hospitals.

Attending Physician, Surgeon, Clinic Assistant - Manhattan Eye & Ear hospital, Bellevue hospital, New York Eye Infirmary-Northern, Northeastern, Northwestern dispensary & Harlem Hospital.
Invented Astigmatic Keratotomy, an operation to correct astigmatism. He discontinued applying this operation after he realized through further study of Natural Eyesight Improvement that the operation eventually impairs the eyes function, cornea, vision, health. It works against the natural function of the eye.

Dr. Bates discontinued his hospital schedules for a while and started experimental work, studied the eyes natural function at the laboratory at Columbia University.., Research at the Pathology Laboratory of Dr. Pruden at the College of Physicians and Surgeons, Columbia University.

Dr. Bates goes to Grand Forks, North Dakota, (Medical License) and teaches his Natural Eyesight Improvement Method, correct natural use of Snellen Eyecharts in the schools, brings clear vision to the children and teachers. Elected president of the Grand Forks district Medical Society.

Back to New York, worked as Attending Physician - Harlem Hospital in New York City. Teaches his method, use of Snellen Eyecharts in the schools, brings clear vision to the children and teachers in New York City.

1911+ - Met Emily C. Lierman. Dr. Bates cured her eyesight, then hired her as his assistant clinic nurse -They worked his experiments in the Physiological Laboratory at the College of Physicians and Surgeons in New York and treated patient's eyesight with natural methods in the Harlem Hospital, Clinic. Many years giving free treatments to the Public. They Married in 1928.
Dr Bates performs experiments on the eyes of Animals, Fish proving that the outer eye muscles when tense can alter the shape of the eye, lens and cause unclear vision, cataracts and other conditions. He proves the outer eye muscles, oblique can accommodate the eyes for clear close vision.

1918 - Course, booklets 'Strengthening the Eyes' by Bernarr Macfadden & Dr. William H. Bates - Physical Culture Publishing Co. In later book editions, Only MacFadden's name, picture was listed on/in the book.

1919 -1930 - Dr. Bates Published his Monthly 'Better Eyesight Magazine' - Central-Fixation Publishing Co. - 11 Years - 132 Issues recording a variety of Natural Treatments that Dr. Bates, Emily Lierman-Bates and other doctors, teachers... used to treat many different eye-vision conditions of their patients. A Gold Mine, History of Natural Eyesight Improvement Methods, Applications.

1920 - Dr. Bates published his book: 'The Cure of Imperfect Sight by Treatment Without Glasses'. (Perfect Sight Without Glasses). Advertised in Better Eyesight Magazine in 1919.

Medical Article - The American Journal of Clinical Medicine 'A Clinical and Experimental Study of Physiological Optics with a view to the Cure of Imperfect Sight Without glasses'. Information, directions on The Bates Method. Many Medical Articles proving the effectiveness of The Bates Method were published though the years.

Elected Vice President of Allied Medical Associations of America.

Stopped work at Harlem Hospital, Clinic and starts work and Free Clinic treatments day at new location.

1926 - Emily C. A. Lierman (Bates) writes, publishes the book: 'Stories From The Clinic' describing The Bates Method, various natural treatments Dr. Bates and Emily applied to cure many different eye conditions for patients in their Clinic. Also listed in Better Eyesight Magazine. The book has a few different sentences...

1931, July 10th - Dr. Bates Deceased, age 70 at his home in New York City.
Emily Lierman/Bates, Dr. Harold Peppard, Dr. William B. MacCracken, C.S. Price, Clara Hackett, Margaret Corbett, Aldous Huxley and others continue to teach The Bates Method. Dr. Bates Better Eyesight Magazine and Books, Articles were Preserved. Bates Teachers work in Cities in the U.S.A., England, Germany, Spanish Teachers, South Africa...

1940 - Emily Lierman, Bates re-published Dr. Bates book with an additional chapter teaching The Bates Method's Application: The Fundamental Principles of Treatment. (The list of treatments is placed in this book, derived from the 1940 edition, Better Eyesight Magazine, June, 1921, other issues and Dr. Bates 1920+ editions). Eyechart training, appreciation letters... included. During her teaching profession Emily and others continued to bring the Bates Method to California and other states, countries. Thousands of people's eyesight was cured naturally. Emily and other teachers created and showed movies teaching The Bates Method. It is hard to find.

1940 - 1941+ - Natural Eyesight Improvement Teachers brought to court by the Optical, Medical Industry, Association in an attempt to stop them from teaching The Bates Method. (See Margaret Corbett, Aldous Huxley case in this book.) Optical Industry, AMA, Eye Doctors destroy Dr. Bates Books, Magazines, Articles, remove them from Schools, Colleges, Libraries, Bookstores... Bates teachers, honest doctors and others hide-preserve the books...

1943 - Emily Lierman/Bates re-publishes Dr. Bates book with a new title 'Better Eyesight Without Glasses'. The word *Perfect*, many treatments, all pictures are removed. The Bates Method is often mis-understood. People confuse Natural Eyesight Improvement with Eye Exercises. (The Bates Method uses relaxation of the mind, body, eye muscles and eyes. Exercise, force, effort is not applied.) Emily published this new limited book to avoid law suits, abuse, imprisonment by the medical people (eye surgeons, optical industry, AMA...) that prefer to continue selling harmful-addictive eyeglasses, eye surgery, drugs and hide Natural Eyesight Improvement from the public.
Emily and other Natural Eyesight Improvement Bates Teachers, a few honest eye doctors secretly preserved Dr. Bates Original Book, Medical Articles, 132 Better Eyesight Magazine Issues in the U.S.A. and other countries.

Bates teachers state; near the end of Dr. Bates' life the eye doctors that wanted to hide The Bates Method, to sell only eyeglasses, eye surgery and drugs ganged together, were taking Dr. Bates to court in an attempt to stop him from teaching Natural Eyesight Improvement. They wanted to take away his ophthalmology-medical license. Dr. Bates died before the court date. Was the cause of his death natural-really the flu or was it a conspiracy. Was he murdered by 'certain organizations' who feared that Dr. Bates would win the case? Businesses selling unnatural eye-eyesight treatments, some drug companies and corrupt politicians would have been happy to help, possibly expose Dr. Bates to a 'mysterious virus'.

Teaching, working under these adverse conditions, harassment for years must have been challenging. It was suggested that Dr. Bates had a type of amnesia. Was this just another lie created by the organized eye surgeons? People stated that Dr. Bates received *death threats.* Dr. Bates may have relocated, in full control of his mind searching for a *safe* place to work, practice his natural Method. Dr. Bates disappeared, reappeared, worked in different locations, hospitals. He learned, taught much in his travels and found friends, support among other honest eye doctors.

After Dr. Bates passed away and time went by, people could not find his original unedited magazines, books, articles and other books he and Emily may have or had been in process of creating. See Better Eyesight Magazine - April, 1930; "*... Dr. Bates and Mrs. Bates to devote more time to the writing of new books on treatment alone for which there has been a very great demand during the past year".* Dr. Bates stated in Better Eyesight Magazine - May, 1927 that they were showing training movies in California; *"Mrs. Lierman is delivering lectures throughout California and is showing moving pictures which illustrate the Bates Method of curing imperfect sight."* ('Showing' = the movies were already created and were being shown?) No one has published the movies or new books... to this date. Were they destroyed? Are they being hidden by people afraid to come forward? Were people threatened? Are some vision teachers hiding the movies, books due to ego, a power-control type of mindset? Where are Dr. Bates' years of patient medical records? I appeal to your conscience, heart and humanity's education; come forward, preserve this great work. Do it anonymously if privacy, safety is the issue. If I find them I will place on YouTube and publish the books free in PDF e-book and paperback.

Dr. Bates life, work time-line originally researched by a variety of Bates Teachers, news reporters, writers.

Better Eyesight Magazine by William H. Bates, M. D.

Ophthalmologist - Eye, Ear, Nose & Throat

Ophthalmologist
William H. Bates

Central-Fixation Publishing Co.,
New York City, New York, USA

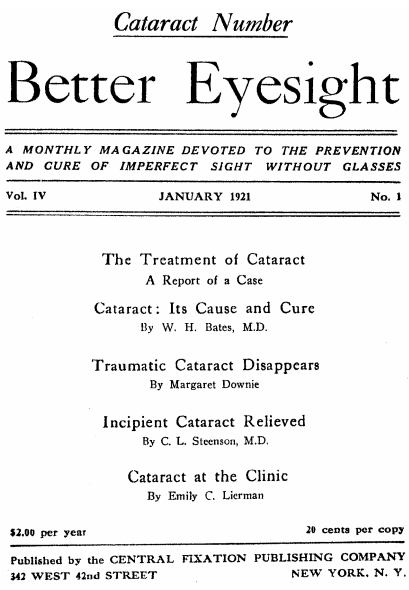
Original Antique Magazine Pages

Emily C. Lierman, Bates

This E-book contains Photo-Copies of the Original printed pages of 'Better Eyesight Magazine' written and published by Ophthalmologist William H. Bates and his assistant/wife Emily C. A. Lierman/Bates. 11 Years - All 132 Monthly Magazine Issues; July 1919 to June 1930. A History Book, Antique Collection.

Dr. Bates discovered the natural principles, true function of the eyes (Visual System) and applied relaxation, natural methods to return the eyes, eye muscles, nerves, mind/brain, body to normal function with clear vision and healthy eyes. The Bates Method.

The Stories, articles in Better Eyesight Magazine describe how Dr. Bates, Emily Lierman Bates, other Doctors, School Teachers, Bates Method Students/Teachers, Children and Parents used Natural Treatments to prevent, remove many different eye problems without use of eyeglasses, surgery, drugs; unclear close and distant vision, astigmatism, cataracts, glaucoma, conical cornea, cornea scars, wandering and crossed eyes (Strabismus, Squint) and other conditions. Hundreds of Natural Treatments are listed.
Dr. Bates used surgery only when necessary.



Cataract Number

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. IV JANUARY 1921 No. 1

The Treatment of Cataract
A Report of a Case

Cataract: Its Cause and Cure
By W. H. Bates, M.D.

Traumatic Cataract Disappears
By Margaret Downie

Incipient Cataract Relieved
By C. L. Steenson, M.D.

Cataract at the Clinic
By Emily C. Lierman

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
342 WEST 42nd STREET NEW YORK, N. Y.

Better Eyesight Magazine consists of articles that are interesting, positive, fun to read. 'True Life Stories' of the doctors, patients, adults and children. Vision improvement based 'Fairy Stories' and other articles for children are included.

The magazines, books are the original source of Natural Eyesight (Vision) Improvement. The Original Better Eyesight Magazine collection is proof that Ophthalmologist William H. Bates discovered the Bates Method, Natural Eyesight Improvement and is the True Author of the Magazine.

Dr. Bates discovered Natural Eyesight Improvement over 100 years ago. The Optical and Medical Industry/Association and most Eye Doctors, Opticians have hidden Dr. Bates magazines, books, articles, Natural Eyesight Improvement from the public for over 100 years because: The writings are proof that Natural Eyesight Improvement works, produces clear vision, healthy eyes, it teaches people how to obtain clear vision 'on their own' and prevents the need for purchasing eyeglasses, contact lenses, sunglasses, eye surgery and drugs.

Due to the truth about Natural Medicine becoming available to the modern public, Dr. Bates work has been recovered from individual owners and re-published. Many modern Ophthalmologists, Optometrists are now learning, teaching the Bates Method.

Original Antique Better Eyesight Magazine and a modern copy with 500 Pictures is free in color PDF E-book download from the website and in paperback. Hard cover published in the future.

The 8 Correct Vision Habits, (natural, normal, relaxed eye, visual system function): Shifting, Central-fixation, Memory, Imagination, Switching Close and Far, Long Swing, Sunning, Palming and other activities described in this book are derived from Dr. Bates work, magazines.

Directions for the Original Better Eyesight Magazine

The Original Better Eyesight Magazine contains a few treatments that are no longer taught the old way to Natural Eyesight Improvement students. They have been changed, improved and new treatments, activities added. The E-Book 'Better Eyesight Magazine Illustrated with 500 Pictures' is attached free with this book. Read that modern text version of Better Eyesight Magazine to learn the new correct way a few of the old treatments in the original magazines are practiced.

Treatments, activities must be practiced correct to maintain healthy eyes, clear vision. Blue print and pictures in the text version describe the old, new, and improved treatments and the correct new way to practice them. The text version can also be used to check for correction of the old worn print in some copies of the original pages.

Fig. 8. The Usual Method of Using the Retinoscope
The observer is so near the subject that the latter is made nervous, and this changes the refraction.

Example of Older Methods That Have Been Changed;

Open Eyes Sunning is no longer practiced in this way. Closed Eyes Sunning only is practiced.

Some people still practice open eyed sunning but in a specific way: Eyes, head/face continually move, eyes blinking, eyes, head/face shifting to the sky near the left, right, top, bottom of the sun and across the sun quickly. The person faces the sun for a brief time. Other directions are applied for safety.

Modern Bates Teachers teach Closed Eyes Sunning only and with eye, head/face movement. Looking at the bright sky, clouds, trees... away from the sun is allowed.

The Sunglass is used only in special cases of near or complete blindness by an experienced Bates Method Ophthalmologist if other methods fail. It can burn the eye, like a magnifying glass when used incorrect, and, because it is a glass, it blocks full spectrum light resulting in partial spectrum, unbalanced light emitting through, from the glass. The light does not go into the eyes pupil and is not directed at the cornea. It is only directed at the sclera, white area of the eye, but it still must not be overused. Partial spectrum light is unhealthy. Pure full spectrum sunlight, not passing through glass is best, healthy for the eyes, brain, body, clarity of vision. The Sunglass is only a short, temporary treatment to awaken, bring to life and action the cells in the eyes retina, lens... to reverse extreme vision impairment, blindness. Done correct, by a Bates Method Eye Doctor, it is beneficial and will not harm the eye.

Reading by 'first' looking at the white spaces between sentences - Do not try to see-read the print clear while at the same time looking at the white spaces between sentences. Central-fixation must be used; look directly at the print to see, read it. In Better Eyesight Magazine, Dr. Bates explains in detail in his 'Questions and Answers Page' to; Use central-fixation when reading; Look directly at the object you want to see. First: Look at, move the eyes (visual attention, center of the visual field) along the white spaces between the sentences to relax the mind and eyes. (Looking at the white spaces causes relaxation because there is nothing to see, there is no effort to see anything clear, so strain is avoided. This enables relaxation of the mind, eyes, eye muscles to occur. The relaxation produces clear vision, a 'Flash of Clarity'.) When the relaxation and clarity occur and the print flashes dark black and clear; then; look away from the spaces, look directly at the black print, place the print in the center of the visual field to read, see it clear. The relaxation and clear vision from looking at the white spaces continues when looking at the print. If it blurs, return to the spaces or Palm to regain relaxation. Then go back to the print. Use the memory and imagination when looking at the white spaces; Imagine painting the spaces pure, bright white with a white paint brush and pure white paint while imagining the white space is seen pure, bright, glowing white and clear. Relax, no effort. Move the paintbrush, eyes left and right along the spaces, blink, relax. Practice with the eyes open, then in the imagination with the eyes closed, then open again. Paint with an imaginary paint brush in the hand or use a white Nosefeather. Practice on Fine Print in the Sunlight. Jump back and forth from the white glowing-paper around the edges of the letters, to the letters, then glow, letters... The eyes and mind like the white & black, 'contrast'. When the print flashes clear; look at it and read. The fovea moves over the letters.

Some people misunderstood Dr. Bates in early times and would try to read the print while looking at the white spaces. Dr. Bates explained to; look at the space or the print; only one at a time, not both at the same time. Looking at, trying to see, think about 2 or more objects at the same time is the opposite of central-fixation: it is diffusion, eccentric fixation and causes tension, strain in the mind, (brain) eye muscles, eyes and unclear vision.
Look at one object at a time for clear vision. This is central-fixation: looking directly at the object of visual attention: first at the white spaces, then the black print, one object at a time, in the center of the visual field.

Palming and imagining, remembering, seeing perfect black on the closed eyes produces perfect relaxation and clear vision. Dr. Bates noticed that some patients used effort to imagine, see black and this prevented relaxation. Dr. Bates states that imagining, seeing black is not necessary to obtain perfect relaxation and clear vision. Remembering, imagining any pleasant thoughts, letting the mind drift from one happy thought, object to another while palming will produce the relaxation and clear vision. Then, black may also appear in front of the closed eyes. If black does not appear, it's alright, it will not make a difference in relaxation, clarity. See the palming chapter for examples.

Square, elliptical... swings - Some of the older swings are combined into the Infinity-Figure Eight Swing. The Long Swing, Sway (Rock)... remain as Dr. Bates created them and are also combined in the Figure Eight Swing. *For all swings and when shifting; move the head and body with the eyes - in the same direction.*

In later editions of Better Eyesight Magazine and books, Dr. Bates and Emily Lierman, Bates lists these changes. (The Sunglass and Open-Eyes Sunning remained in the 1930 final magazine and 1940 book.) Dr. Bates himself stated that the Bates Method is continually advancing, being improved. As he treated thousands of patients over the years the Bates Method was perfected. Bates Teachers state they learn much from their patients, students, each student being an individual and various treatments being successful for each condition, state of mind, body, eyes and personality.

A few original magazine pages that are old with unclear print have an additional new clear page attached, typed in present date print. A few misprints are corrected with additional print, leaving the original pages untouched.
Book printing settings for the original pages is best at: darkest black and highest quality. Not too dark or it will smear the print. The Original Antique Magazines are in Paperback on Amazon and other bookstores.

Distributing this book free to the public is encouraged. Keep this page in the Original Better Eyesight Magazine E-book that states; The modern version is free with the original book and should also be read to insure correct application of some of the older original practices, treatments. Corrections are in blue.

Thank-You, in Historical Order

+The University of California Library - http://www.lib.berkeley.edu/ and the Optometrist - Monroe J. Hirsch (name shown in old print, pictures in this book) and other Colleges, Libraries, Eye Doctors, Emily C. A. Lierman Bates, Bates Teachers, Individual Persons that preserved Ophthalmologist Bates Magazines, Books, hid them from the Optical Industry when these businesses, doctors were destroying Doctor Bates work. The law in Europe allowed preservation of Dr. Bates magazines, books.

+Thomas Quackenbush - http://www.naturalvisioncenter.com Bates Method, Natural Vision Improvement Teacher, Author of 'Relearning to See - Improve Your Eyesight Naturally' and 'Better Eyesight - The Complete Magazines of William H. Bates'. He is the first Natural Vision Improvement Teacher to re-publish and bring Dr. Bates work, treatments in Better Eyesight Magazine to the modern public.

+In 2005 people created the first public Internet PDF scan copy of the entire 132 issues of Dr. Bates Original Better Eyesight Magazine and Medical Articles. Every year, month, page in the original antique print! This proved that Dr. Bates discovered Natural Eyesight-Vision Improvement, he is the true source of the Bates Method.
In 2005-2012 people converted the PDFs and other photo-scan copies of the magazines, articles and Dr. Bates book into paper books. Small and fine microscopic print magazine, book versions were also created. Clark Night, Clearsight Publishing Co. placed Dr. Bates magazines, books on-line free in PDF after refining the quality. Four teachers, sellers tried to convince Clark to remove the free magazines or charge a high price for them. He kept the magazines, books free on-line for the public. Dr. Bates magazines, book are stored at the Library of Congress in microfilm along with other doctors and Dr. Bates trained Natural Eyesight teachers books. That magazine price is expensive. Buy it in person to be sure of the clarity and full content. There are a few extra things in that copy.

The following pages provide a sample of the 1919 Better Eyesight Magazine Issue Illustrated with 500 Pictures. Free in PDF form with this book.

This book is also dedicated to the following persons: (Dedicated in Historical order.)
They worked with Dr. Bates & Emily and/or continued their work and wrote books on Natural Eyesight Improvement. This book (or the E-Book) contains a chapter providing more information on teachers, their books and links to websites.

+Emily C. A. Lierman, Bates- Dr. Bates assistant and wife. Dr. Bates cured her vision. Emily then worked with Dr. Bates in his clinic and continued his work after his death. She wrote a book; 'Stories From The Clinic' containing true articles, stories of the patients, natural treatments she and Dr. Bates applied to cure a variety of eye conditions.
Her stories are also in Dr. Bates monthly Better Eyesight Magazine. The book contains a few additions to the stories. With her kind manner she easily cured children, adults naturally of unclear vision, crossed, wandering eyes, cataracts and other conditions.

+William B. MacCracken M. D. - Medical Doctor - Trained with Dr. Bates and cured his patient's eyesight with the Bates Method. Wrote 2 books.

+Harold M. Peppard - Optometrist - Also trained with Dr. Bates and continued Bates' teachings. Book: Sight Without Glasses.

+ Cecil S. Price - Trained by Dr. Bates - Book : The Improvement of Sight by Natural Methods.

+Clara Hackett - One of the first, best Bates Method Natural Eyesight Improvement Teachers. Books.

+Bernarr A. MacFadden - Physical Fitness, Natural Eyesight Improvement. Studied Bates Method with Dr. Bates. Wrote a course, book with Dr. Bates. Only MacFadden's name was listed on later book versions.

+Margaret Corbett - Famous Bates Teacher. Saved writer Aldous Huxley from blindness. The Optical/Medical Industry brought her to court in an attempt to stop her from teaching the Bates Method. She won all cases. Wrote 4+ books: Help Yourself to Better Sight, How to improve your sight. Simple daily rules in relaxation....

+Aldous Huxley - Famous writer, cured of near blindness by Margaret Corbett, he then wrote; 'The Art of Seeing'. See his photo on the right; from the back of his book. A Natural Eyesight Improvement Book that has helped many people achieve clear vision. My first Bates Teacher, by book at age 17. Cured my distant vision.

+John N. Ott - Studied and wrote books on the health benefits of sunlight. He proved with his experiments the healthy effects sunlight produces for the body, brain, eyes, vision. Dr. Bates proved that lack of sunlight causes unclear vision, cataracts, many eye diseases.

+Jacob Liberman, Optometrist - http://www.jacobliberman.org/ - Bates Method, Natural Vision Improvement Optometrist – Books, Sunlight benefits for health of body, brain, eyes, Vision Training System using Moving Colored Light. Similar to John Ott's work with sunlight.

+Paul E. Dennison and Gail E. Hargrove – http://www.braingym.com - Left and Right Brain Hemisphere Activation and Integration Treatments. Method also improves eyesight and strabismus.

+Thomas R. Quackenbush – http://www.naturalvisioncenter.com - This is one of my 1st Natural Vision Improvement Teachers. He is the first Bates Teacher, the Pioneer (after Dr. Bates) that brought Better Eyesight Magazine to the modern public in the United States. See his books: 'Better Eyesight - The Complete Magazines of William H. Bates' & 'Relearning to See - Improve Your Eyesight Naturally'. The books contain the original and up to date Bates Method.

Modern Teachers before him did not make the magazines known and available to their students. This true source of the Bates Method was hidden. Why?, because it is free in a few libraries in the U.S and Europe and the method is simple, easy, people do not have to pay money to learn, apply and teach it. Mr. Quackenbush's books enable people that are low income, cannot travel, to have access to the best, complete and low cost Natural Vision Improvement Training. I was able to study his books and the original Better Eyesight Magazines and learn which old treatments have been changed, improved and new treatments added to the Bates Method. Taking his course resulted in clearer than 20/20 close and distant vision, improved my ability to relax, my state of mind, self-esteem, emotions, intelligent and creative thinking. I quit a dangerous job at a hotel, quit drinking beer using Rational Recovery, 'The Small Book' by Albert Ellis Ph.D. and Jack Trimpey and found an honest chiropractor that cured my neck/dizziness after taking Mr. Quackenbush's class.

+ All Bates Method Natural Vision Improvement Teachers, Bates Method Behavioral Optometrists, Ophthalmologists.

There are many more teachers in the U.S. and overseas and I apologize that I have not been able to list them all. Spanish, German, Italian, African, Chinese teachers... I have listed the teachers that I have taken in person & home study classes from and/or studied their books. Links to other teachers are in this book. All teachers books not listed here are in chapter 2 of the main Paperback book or PDF.

I have not listed teachers that are greedy, charge an extremely high price for Student and Teacher Training, hide Dr. Bates work, magazines and refuse to give out free vision improvement help to the public.

(Students must avoid Teachers that sell, advise referrals to eye doctors selling unhealthy, dangerous Plus Lens Eyeglass Therapy, any type of Contact Lenses, Laser Cornea Eye Surgery Treatments.)

The subject of seasickness was then discussed. Dr. Bates said this also is caused by strain. People who relax and allow their bodies to sway with the movement of the boat never become sick. A sailor's walk is spoken of as a "rolling gait." If he were to stand stiff, stare at the waves, and strain to resist the movement of the ship he would never become a sailor.

Dr. Bates told the story of one of his patients who would never ride in an elevator if she could avoid it. She detested going into the modern office buildings because the elevators were so swift and the buildings so high that she became ill before she was half way up. She told Dr. Bates she had to steel herself to the ordeal of boarding one, and at the end of the trip felt as though she had just crossed the Atlantic Ocean in a rough voyage.

When Dr. Bates invited her to go with him for a ride in the elevator of his building she opened her eyes in amazement, thinking he lacked sympathetic qualities. He explained to her that steeling herself to take a ride was wrong, in addition to being a dreadful strain. He told her to look at the operator and not at the walls gliding past. This helped her to such an extent that she insisted upon riding up and down several times to see if the cure was permanent. It was, just so long as she did not strain to hold the floors stationary.

A wonderful report was received from the superintendent of nine schools who installed this method in his classes. This proved without a doubt the value of Dr. Bates' method, especially with children. The report will be read at the September meeting of the League. We hope all the members may be able to attend, because the report of the summer work will be worth-while and helpful.

The September meeting will be held on the second Tuesday, as usual, which falls on the ninth.

Chief Four Eyes

By Emily A. Meder

A LADY called at the office and introduced herself. She was one of our regular correspondents and I remembered her name because she had such a great deal of trouble with her thirteen-year-old son, Dick. She explained in her last letter that he is a normal, active boy who finds more enjoyment in playing baseball and leapfrog than doing his home work. As Dick wouldn't wear glasses she decided to see what Dr. Bates' method accomplished.

There is a vacant lot near her home, used by a band of "wild Indians," with her son as "Chief." The band, however, objected to a leader with glasses, and Dick became quite ingenious in inventing ways to wear them and still not wear them. She said she watched him continually. He walked innocently past her with the glasses gracefully perched on his nose, but in some mysterious way they disappeared before he reached the sidewalk. This became a nervous game of hide-and-seek between them. He said he would not be called "sissy," and she was equally sure that he would have to wear glasses in order to be cured.

About this time news of Dr. Bates' work reached the mother's ears and she wrote to us for information. She bought the book and told Dick that if he did as she instructed he could leave his glasses off for two weeks. At the end of that time she found that he could not only go without his glasses but his sight had improved.

Dick enjoyed the palming, much to her surprise, and he did not have to be told to do it when his eyes felt strained. He is proud of his test card and his "Indians" try to outdo each other in reading it at the farthest distance. It has become a modern Indian rite.

"The best of it," Mrs. Jamison said, "is that I can look at my boy now without the suspicion usually attached to a murderer, and he lost the hatred nickname of 'Chief Four Eyes'."

Dedication to persons that directly and indirectly helped me to write this book

Robert Monroe - www.monroeinstitute.org
Author of Journeys out of the Body, Far Journey's, and Ultimate Journey.

THE MONROE INSTITUTE
365 ROBERTS MOUNTAIN ROAD
FABER, VA 22938
866-881-3440 See his YouTube videos; http://www.youtube.com/watch?v=VoZWOLWnQkw

Read more about Robert Monroe in the Authors Natural Eyesight Improvement Experience below.

Dedication to My Mom

Mom at Christmas

To Mrs. Nancy Oliver, Wilder. For raising me alone without a father, working for minimum wage in a hot laundry mat for years while we lived in a small apartment. We often did not have enough food. I would sneak outside and dig for empty soda bottles to cash in for money to buy crackers. I remember the day a man at the recycling store yelled at me, stating I cannot bring him bottles from the trash! Men would be cruel to Mom, try to corrupt her, but she would not break from her Catholic faith and favorite Saint, St. Anne. Mom saved her money and bought a Art Instruction Schools Course for me when I was 7 years old.
(The school that is advertised on matchbook covers and in TV Guide.) I remember thinking how boring it was to draw the stick figures of people, thinking its not helping my ability to draw and I wanted to go back to just copying cartoon pictures of Moose Miller, Fred Flintstone, Bugs Bunny, Donald Duck, Popeye, Dr. Strange… from the comics. I now realized at age 53 that the course helped me to draw the pictures in Better Eyesight Magazine and other books.
My Aunt Betty is a very good artist, used to draw lifelike pictures of baseball players, boxers, my grandfather when he was a Middle Weight Champion Boxer, Police Sergeant in New England, Massachusetts. She also drew cartoons and now paints. She helped to teach me how to draw. I cannot draw as well as most artists, but the basic skills helped to create this book.

The Author's Experience with Natural Eyesight Improvement

In 4th grade Elementary School I had to wear eyeglasses to see the blackboard from the back of the classroom. Mom bought the eyeglasses for me though she could not afford to spend the money. Stress can cause unclear vision. I was in constant fear at school due to a large boy that would bully me every day, wait to scare me, threaten to beat me up after school at the end of a long dirt road. I can still see him standing there, picking out kids to bully, knowing I was next along the line.
I do not remember him actually hitting me, mainly just coming up to me and acting like he was going to in order to scare me. Frazzled my nerves daily. During childhood and adult life I was hit in the head, face a few times by other children and adult men. (Snow, ice balls, and violent people.) I know this contributed to unclear vision, and a very slight wandering eyes condition. Neck vertebrae, collarbone or skull, eye socket, joints, bones misalignment?
My teacher also wore glasses. Children pick up eyestrain, incorrect use of the eyes, tension and lowered vision from being around people that wear glasses and stressful experiences in school… I hated the glasses and threw them out in a couple weeks. I sat closer to the blackboard and this prevented strain, effort to see and the vision returned to clear. I could then see clear from the back of the class when necessary. Mom made friends with the bully's family, then he decided to be my friend. We played 'The Long Ranger' make believe game together.
Mom could not afford to pay for the glasses but was kind and let me go without wearing glasses. My vision remained about 20/20-20/40 for years and it never bothered me. (Wish I knew The Bates Method back then, would have had 20/20 and clearer vision.)
In 10th grade high school Mom had to buy glasses for me again to read the distant blackboard in school. Learning Algebra and French, did not like these subjects. I threw the glasses out after 2 days. At this time I found Aldous Huxley's book: 'The Art of Seeing' in a old bookstore in Brookfield, MA and practiced Switching

and Shifting on objects at close and far distances with: both eyes together, one eye at a time, both eyes together again. My left eye needed more vision improvement than the right so I practiced extra time with the left eye. Shifting was combined with the Switching. I understood and practiced a little Central-Fixation. The first time, few seconds that I shifted on an object, distant tree, my vision improved. Within only 5 minutes my vision improved to 20/20 and in 2 days was perfect, clear. Vision was so clear in both eyes that I could not remember which eye used to have less clear vision. My mind felt more balanced, relaxed. It is often easy for children, young people to improve their vision.

Practicing the Bates Method, having the power to improve my vision on my own resulted in an improvement in my mental, emotional state. It was easy to learn, remember at school, my grades improved, I gained confidence. The Bates Method activates, integrates, improves functions of the left and right brain hemispheres, all brain functions. I left a gang of kids that were a destructive influence and learned to have compassion for others and respect myself. I realized the mind has more functions, abilities, 'power' than we are taught in school, including college. Went into study of Psycho-Cybernetics, other science and spiritual subjects. (Human potential seems to be suppressed by our leaders. Politicians and some religions are trying to remove history and other books from libraries, bookstores, schools, the Internet.)

My vision remained about 20/20-20/30 for years and it never bothered me. Mainly 20/20, sometimes clearer.

In the U.S. Army I was forced to wear glasses: distant eyesight 20/40 at times. (It's normal for vision to fluctuate. Glasses prevent natural fluctuation back to clear vision.) I refused to wear the glasses. One day while in a foxhole shooting my rifle at the distant target, the Sergeant made me wear the glasses. I could not hit the target after many shots while wearing the glasses. I got mad and took off the glasses and threw them in the dirt. Then aimed the rifle and hit the target easily for the remaining shots. Sargent then allowed me to permanently discontinue use of the glasses.

Did not need glasses for the rest of my life until age 40, Year 1997 – unclear close vision –
In the year 1995 the author of this book was listening to Robert Monroe's relaxation tapes. I worked a very high stress job in a old hotel dealing with violent, abusive people, life and death situations. I suffered with dizziness from an assault, neck injury. Drank too much beer at times to block out the stress. The tapes produced a great amount of relaxation and also teach a variety of tools to improve function of the brain, body. At the time I was reading Aldous Huxley's book 'The Art of Seeing' to try and improve my close vision & remove eye floaters at age 40. Practiced Bates Method activities: shifting, central-fixation, switching... at close distances. Also read fine print in the sunlight with relaxation, shifting, central-fixation, memory, imagination. It worked!

One night after falling asleep listening to Monroe's tape 'Focus 10', I heard a man's voice in a dream say; "Write a book on Natural Eyesight Improvement". The dream seemed very real and it woke me up. I remembered the man's voice and thought later that it would be a good idea to write a book on my experience with distant and close vision improvement for 30 years. I began writing the book: 'Do It Yourself – Natural Eyesight Improvement' and searching for more Bates Method Natural Vision Improvement books to study. This led me to teachings of Janet Goodrich, Martin Sussman-Cambridge Institute-The Program for Better Vision course *(I use only some of his methods)*, Carrie Anderson training at the Learning Annex, then in person training course and books by Thomas Quackenbush in San Francisco, CA, and further study of Dr. Bates Better Eyesight Magazines and other books. Distant and close vision improved to 20/20 and clearer.

Robert Monroe's tapes teach spiritual development, sprit travel and improvement of brain, body functions and produce natural states taught by Natural Vision Improvement Teachers: Deep, perfect relaxation in the beta, alpha, theta, delta brain wave states, dynamic relaxation, left and right brain hemisphere activation/integration, visualization of clear mental pictures, color treatment, creativity, imagination, memory, release of negative thoughts, emotions, energy strengthening, circulation, control. The activities on the tapes improve all functions of the brain.
All of these conditions improve the clarity of vision. Listening to his tapes improved my ability to write and create pictures for this book. Many famous scientists, artists speak of entering into a deep relaxed state, contacting the subconscious mind to obtain greater power of the brain, improve skills, solve scientific theories, formulas... Monroe's tapes activate this state. (See books by Dion Fortune for further study.)

In Oct., 2009 I experienced a neck injury from a dishonest, *very bad* chiropractor in Worcester, MA. It affected my vision: double vision, eyes' divergence, converge, balance, hearing impaired, astigmatism... All from misaligned neck vertebrae and neck, back injury. Neck is healing with new doctor's treatment for 15 months and use of Natural Eyesight Improvement, Bates Method has returned the vision to clear. Occasional slight fluctuations in vision to 20/30 and eye movement problem returns a little when the neck injury flares up, sinus congestion in air polluted city. Neck muscle relaxation, Physical Therapy, Home 'do it yourself' non-invasive chiropractic, less computer work, clean air in Boston, MA by the sea, and the Bates Method always returns the vision to 20/20 and clearer. In Mar., 2016, age 59; still some neck, back injury effects, but vision remains clear. I know from experience that the Bates Method works, even during difficult conditions!

Dedication To:

To Don Dixon - Best friend, Retired Air Force Pilot. Neighbor, landlord for 9 years in San Francisco Bay Area. Thanks for the Pilot Wings and taking me over the Golden Gate Bridge to the Marin Flea Market where I bought an Antique French Military Rifle.

Greg Dean and his Mom, Dad - Art and Jackie. Truly rare, strong, great people, best friends. RIP Greg. See you up there eventually. Stay out of trouble; 'or not' - Ha-Ha!

To Richard Hess, 'Best friend' Cherokee, German at the Metro.

To all the Senior Citizens and Young People in California. I learnt many things from the diversified personalities in Los Angeles, San Diego, San Mateo, South San Francisco, San Francisco! Farmers Market Bar on Main Street, Broadway, Watts in Downtown Los Angeles and all the wild, fun American Indians, Vets, Old Italian Men, ladies in Daly Cit, CA,The Homeless. Learning from a variety of people makes a person grow on all levels, strengthens the personality, mind, sprit.

Thank you to Barbara Gibbons at the Metropolitan Hotel in South San Francisco for a great place to live, work and write!

Picture = Christmas Tree on San Bruno Mountain-South San Francisco, CA - View from room #40, Metropolitan Hotel.

I used to watch my TV reflected in this window at night and 'switch' to the distant mountain and watch 'shift' on the Christmas Tree, cars moving along the hill, lights in the houses, stars, planes in the sky, people in the buildings, street lights, people walking on Grand Avenue, good looking Italian Man working at the Liquor store.

At this time even though the job was stressful, I was very happy, lots of friends, jokes, active. A positive mental, emotional state has a major beneficial effect on the clarity of vision. Relaxed, positive mind=clear vision. Physically active job, good posture. My vision was improved to better than 20/20 close and far while living here. Thomas Quackenbush, Natural Vision Improvement Teacher's School was over the mountain in San Francisco near the beach and Golden Gate Park.

Moving objects on the TV screen reflected in the window also keeps the eyes moving, shifting easy, relaxed, vision clear.

How to Use The E-Book

This is a Natural Eyesight Improvement Paperback and Adobe Reader/Kindle PDF E-Book consisting of 1700+ pages. Chapter, Sub-Chapter, Title Navigation Bookmarks, Page Thumbnails, Multiple Pages view are on the left side of the E-book and a linked Chapter Index for moving quickly to any page, section of the book. A + sign is to the left of the main bookmarks; click it to reveal more bookmarks, books, pages, chapters.

Word Search for all 20 E-books; Type in a word, Example; Cataracts, Nearsight, Myopia, Farsight.., and all areas of the book that provide information on cause/cure of these eye conditions will be listed. Example; If Nearsight or Myopia is typed; 50+ different treatments to cure unclear distant vision will be listed with chapter, article title, page number. Click a link to go directly to a page, treatment.

Adobe Reader & Kindle read aloud for persons with low vision, blindness. Language conversion, translates to Italian, Spanish, German... Click the View Tab in Adobe. Kindle and Adobe print can be enlarged for the visually impaired.

Special Note for Kindle, PDF Computer, Mobile Book Readers; Voice, Read Aloud Option is Best for the Blind, Visually Impaired and for all people, to avoid reading on electronic screens all the time. Like carrying a small lightweight radio that speaks, reads to you. I read on PDF and Kindle occasionally. I prefer to sit back, relax

at the beach or under a tree and use the Audio Function. Print the Kindle, PDF E-Books on paper. Reading on real paper, in the sunlight is most healthy for the eyes; true dimension, distance, shadow, contrast, texture and detail.

http://www.adobe.com/products/reader/languages/ See the E-Book videos for directions on how to use the E-books & free Natural Eyesight Improvement Training videos at; www.cleareyesight.info & YouTube; http://www.youtube.com/watch?v=WO9AS4A8f_c http://www.youtube.com/watch?v=5E5lBZ0BQuY

E-Books are the new 'Do It Yourself ' way to buy books at a decent price. No expensive publishers, printers, bar-codes, shipping, no censorship by governments, corporations, businesses... The reader can view the book on computer, laptop, Kindle other small electronic devices without Internet connection and the E-Book moves faster than highest speed Internet. Carry the book on a disk or in your pocket on a tiny computer chip disk, view it on any local library, hotel... computer.

This book is unlocked, no security. The reader can copy, paste, print and change the size of the print. Print your own book with home computer/printer or copy the book to a CD and bring it to a printer for printing, book binding. Print in color or black ink. Any size paper. Choose spiral binding so the book opens fully when set on a book holder - prevents the need to hold the book open with the hands for relaxed arms, shoulders, neck when reading.

Adobe can print in large, medium, small, fine & microscopic print. Fine print is healthy for the eyes, cures unclear close and distant vision when read correct with relaxation, shifting, central-fixation. Set Adobe Reader to print 2 or more pages per page for small print. 4 to 6... pages per page for a fine and microscopic print for perfect central-fixation, saccadic shifting, fine detailed vision at close and far distances. The Zoom Function also changes print size.
Create mini fine and microscopic print booklets to read in the sunlight daily. Practice the treatments described to prevent unclear vision, cataracts and other eye conditions.

In the Adobe Reader Print Setup: Select % of normal size, a number less than 100% or use page scaling. This will fit all text, pictures onto the paper, reduce the size to create a margin on the edge of the page for binding a printed book. Or print normal size 100% on larger paper.

Select 'Print Document and Comments/Markups' in the Adobe print box to print all page numbers on the upper right corner and text boxes in the book. Print pictures large for kids to color or to hang on a wall for Natural Vision Improvement Training. Adobe Acrobat 30 day Free Trail can be downloaded free from http://www.adobe.com to arrange the book pages as preferred.

For Better Eyesight Magazine

This book contains all publications of Dr. Bates Monthly 'Better Eyesight Magazine' – Unedited, everything included, July 1919 - June 1930, all of his original treatments and modern versions of older treatments.

- **Text in light blue are comments added by author Clark Night, Bates Method Natural Eyesight Improvement, Graduated Student, to clarify Modern Natural Eyesight Improvement versions of a few older methods described and to correct a few spelling errors in the original magazines.**
- **Print in bold, black specifies Bates Method Natural Eyesight Improvement treatments for a variety of eye conditions, military articles, and other items of importance.**
- **Print in bold, dark navy blue are specific Bates treatments, activities, steps for vision improvement.**
- **This book contains 500 pictures placed on the right margin of the magazine pages to help the reader quickly understand every Bates Method treatment described.**
- **The First Article and usually the 2nd article of each monthly Better Eyesight Magazine and other articles not labeled by author are written by Ophthalmologist Bates.**
- **The First Article on page 2 (inside cover in the original magazines) consists of some of the best treatments, activities taught by Dr. Bates, specific directions for a Bates Method Natural Eyesight Improvement treatment.**

Example; July 1919 magazine PAGE TWO - Do You Read Imperfectly?

Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Dr. Bates Instructions for PAGE TWO

+The original photo copies of Better Eyesight Magazine are included with this book so the reader can verify the modern version, treatments in this book with the original printed magazines from the 1900's.
See original sample page on the right >, previous pg.

Dr. Bates 'Better Eyesight Magazines' contain hundreds of different natural treatments that he and his assistant Emily Lierman/Bates and other eye doctors applied to cure: unclear distant and close vision, (nearsight, farsight) astigmatism, cataracts, glaucoma, cornea scars, wandering/crossed eyes, amblyopia and other eye problems. A few Eye Doctors, Ophthalmology College Libraries have preserved these magazines. See Monroe J. Hirsch O.D. Ph. D.

Pictures in This book

A main Bates Method activity to relax the mind, body, eyes and bring clear vision is to improve the memory, imagination of mental pictures. This is a normal function of the eyes, brain, visual system to produce clear vision. A baby (and adults) see a unfamiliar, new object clear by first 'shifting on it' (looking at different parts, moving the visual attention part to part on the object, examining small details). The object becomes clear, familiar, memorized, a clear memory picture of the object is stored in the brain. The next time the baby looks at the object it is familiar, remembered clear and the brain quickly activates the correct eye movements on the object, no effort to see it, relaxation occurs and it is seen clear.
This process is done for every new object encountered. The brain stores thousands of pictures of objects.
Example:

A baby sees an apple for the first time and it may be imperfectly clear due to it being a unfamiliar, new object. At first, the baby's eyes move, 'shift' slowly on the apple part to part as the baby's eyes, brain investigate the new object, become familiar with it. The baby's eyes, visual attention move from part to part on the apple, the brain registering, storing a image of each part the eyes look at. A image of the apple forms in the brain, memory each time the baby sees the apple again. Each time the apple is seen, a clearer and clearer, more familiar mental, visual picture of the apple is created and stored in the brain, memory and it is easier to see; the brain activates eye movement, shifting on the round, red object easy, relaxed and the eyes movement is improved, quicker. Smaller saccadic eye movements occur. A perfectly clear image of the apple is stored in the brain, memory and it is now a familiar object. When the baby looks at it, the brain moves the eye muscles, eyes correct, quick and easy, part to part on the apple and it remains clear.

When the brain remembers, imagines, creates, stores clear pictures in the mind, in color, motion like a real life movie: the mind, body, eyes relax, eyes move easy and vision is clear. (Even a stationary object appears to move, with 'oppositional movement' (The Swing) as the eyes shift part to part on it.)

Blind people use mental pictures, touch... and other senses. One treatment to help cure blindness, near blindness is to improve the memory, mental pictures of objects. Improve the memory, imagination, clear mental pictures to obtain clear vision. Read Helen Keller's story in Better Eyesight Magazine Illustrated with 500 Pictures.

The pictures, true life stories and fairy tales in Better Eyesight Magazine cause the person to create clear mental pictures, like an active motion 'movie' picture occurring in the mind. The stories are entertaining, interesting and fun to read.
This relaxes the mind, eyes, brings the mind to a positive state. All these keep the vision clear.

When the mind is positive, relaxed, vision clear: the memory and imagination improve and the improved memory, imagination further improve relaxation and the vision. Then the clearer vision further improves the memory, imagination, relaxation. More vision improvement occurs. Ability to remember, imagine and see a object clear is greatly improved. It's easy, relaxing to remember, imagine a clear object. Practice imagining, remembering objects clear. All functions of the visual system are connected. Improve one and all improve.

700+ pictures are placed in the main E-book and in Better Eyesight Magazine to help the reader easily see/imagine in the mind, learn and apply each treatment, activity Dr. Bates describes. Less reading, fast eyesight improvement.
Each picture teaches a Natural Eyesight Improvement treatment. Read the print below the picture for a quick lesson.

Remembering, imagining, creating clear mental/visual pictures is a main Natural Eyesight Improvement treatment, normal function of the visual system. The brain works with the eyes to produce clear vision.

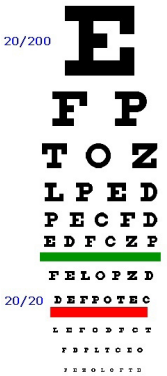
Babies, children and adults learn to see clear by first shifting on a new object: moving the visual attention, central field from part to part on the object, becoming familiar with it, the brain visualizing, creating, storing a clear mental and visual picture of the object in the memory. In this way, the object is seen clear by the function of the brain activating, retrieving the clear memory picture of the object each time the eyes look at the object. The brain works with the eyes, eye muscles to move the eyes, (visual attention) on the object correct and see it clear. The object becomes familiar, easy to see and the brain, eyes relax, function perfect,

the object is seen clear.
Familiar objects are easy to see, relax the mind, eyes, produce clear vision.
The imagination also works with the memory to produce clear objects, vision.

The pattern of eye movement can change, move freely, vary each time the eyes look at the object but the brain will also produce certain eye movements for that specific object; the brain knows how to move the eyes, visual attention on that objects specific shape; Example: The brain moves the eyes, visual attention on a round object in a different pattern than when moving on a square object; The eyes, visual attention (center of the visual field) move in a certain basic pattern on the round shape, areas of a apple: the center, areas within the circular shape, along curved edges, top, bottom, sides...

If the eyes, visual attention try to move on the apple as if it has a square shape, squared edges and other shapes... (as in the middle picture, painting hanging on the wall), then the eyes will be moving, looking out into space sometimes, away from the apple (see 3rd picture). This will be diffusion, eccentric fixation, no central-fixation because the eyes are not on the object when looking away from it. Moving the visual attention, center of the visual field along, around the edge of an apple is different than moving along the edge, corner of a square. (See example; looking at the #7 on the bus in the Memory, Imagination chapter.)

A memorized, familiar object activates easy, mentally stored eye movements, shifting part to part, perfectly, automatically on the object. Perfect central-fixation, the object is seen clear. New, different eye movements are also added for each individual object and each time the object is viewed again because the eyes move freely and the eye movements on the object, scenery is also affected by thoughts in the mind, what the brain is thinking about the object or other subjects, the distance, angle the object is at, lighting, contrast, size...



Familiar objects are easy to see, relax the mind, eyes and produce clear vision. This is why Dr. Bates advises keeping a familiar, memorized Eyechart in the classroom to practice on, keep the children's vision clear.

Books that contain entertaining, interesting pictures improve the brain, visual systems memory, imagination of clear pictures of objects. This improves eye function with the brain and clarity of vision. Children enjoy books with pictures. The small pictures in the book can be printed larger for children to assemble into a coloring book. The child will learn the Bates Method as the parent describes what each picture is.

Coloring - eyes moving with the crayon, filling in small details, using a variety of colors activates eye movement 'shifting', central-fixation, relaxation, positive mind, left and right brain hemisphere activation, integration. These are Bates Method natural eye functions that produce clear vision and straight eyes.

Reading Comic books improve the clarity of vision due to the many colorful action pictures, interesting, fun to read stories engaging the memory and imagination. Eye movement, shifting is activated, improved as the eyes, mind look at a picture and move from picture to picture and on the bubbles of printed words.

The small pictures in this book prove that Natural Eyesight Improvement works! Most pictures in this book are drawn by the author. As stated earlier, the author of this book attained clear close vision at age 40 by using Aldous Huxley's book and taking a Bates Method Natural Vision Improvement course from Thomas Quackenbush in San Francisco, CA. At age 59 my close and distant vision is still clear. 500+ pictures were drawn by hand, in small size 1½ inches height/width using my memory, imagination as I read each article in Better Eyesight Magazines. Pictures were drawn on paper, then traced over on a window pane two times, sunlight shining through the window, looking at the pictures 1 inch to 6-20 inches and up to 5 ft. from the eyes seeing the fine details of pictures clear on paper.

Pictures were then scanned into a computer, refined again in Microsoft Digital Image and Photoshop. All this was done without eyeglasses or magnifiers. The Bates Method works!!

Clark Nights E-books are allowed to be distributed free by 4 Bates Teachers and all book customers. Be aware that a few photograph and other pictures in the book were taken from the Internet, Microsoft Free Clipart, historical sources that gave permission to use the pictures, Dr. Bates books, Articles and other old copyright free books. They stated the pictures are 'royalty free' but I did not get this in writing, only by phone and E-mail. I take full responsibility for all pictures in my books. 95% in the 2 main books are drawn, copyright by Clark Night.

The Natural Eyesight Improvement student must get an eye exam, to check the health of the eyes, preferably from an eye doctor experienced with the Bates Method of Natural Eyesight Improvement. A eye exam from a natural based eye doctor that performs exams without constant use of eye drops, without drugs, machines, time limits for reading charts is most healthy for the eyes and will result in the best, accurate prescription, not over prescribed/too strong in eyeglass strength.

Looking into a machine, mechanical or electronic device to test the clarity of vision blocks many natural eye functions, can cause temporary: increased visual blur, stiff neck, block relaxed, normal eye movements and result in a unnecessary eyeglass prescription and too strong prescription. This will maintain, increase vision impairment and interfere with application of Natural Eyesight Improvement, prevent the eyes from returning to normal function, clear vision. I do not trust the new 'Eye Scan Machines. Artificial light... into the eyes, directly on the retina.

An old fashioned paper eyechart hung on a wall with sunlight on the chart, no glare, used when the eyes, mind are relaxed, no pressure to hurry is the best way to test for the true level of visual clarity, along with the old time

retinoscope and other harmless instruments to look into, inspect the eye. Natural Bates Method Eye Doctors will do this. They give the patient time to read the chart.

Eye drops are used to widen the eyes pupil so the doctor can look into the eyes and completely check the eyes health. This may be necessary to insure a though eye exam but constant use of eyedrops on every exam can impair the eyes health. The eyedrops cause; a paralyzed eye muscle, widened pupil, blurred vision, light sensitivity... I personally will not allow eyedrops when taking an eye exam. The drug companies are placing harmful and unnecessary chemicals, toxins in the eyedrops, various drugs for the eyes, tear production drugs and drugs for other medical conditions. This causes eye, vision, health impairment. Toxins, chemicals are placed in vaccines, flu shots, even our food, water supply. Contact lens solutions have been contaminated with bacteria resulting in eye infections, blindness. Chemicals in Sinus, Nasal sprays cause Glaucoma, Cataracts, vision impairment.
Modern Natural Eye Doctor's are seeking a safe alternative to eyedrops, drugs.

Disclaimer

The Author of this book; (Do It Yourself – Natural Eyesight Improvement – Original and Modern Bates Method & Better Eyesight Magazine Illustrated with 500 Pictures, EFT and all books by the Author) must place a disclaimer in this book to protect herself from lawsuits, imprisonment, destruction of this book by the Medical Association, Drug/Optical Industries, corrupt politicians, fraudulent vision improvement teachers that attempt to prevent the public from acquiring free, authentic Natural Eyesight Improvement information, training;

The author, publisher, (Clark Night-Pen Name) Mary I. Oliver www.cleareyesight.info mclearsight@aol.com Clearsight Publishing Co. - Do it yourself - Natural Eyesight Improvement is not responsible for the readers use, misuse, misunderstanding of the information in this book and website. The author does not claim/promise to diagnose, treat, cure eye problems, disease, medical conditions. The reader agrees that he/she does not have a personal or professional relationship with the author. The author is not an eye doctor or medical doctor.
This book and other books, videos, website by the author consist solely of Educational Information for improving the clarity of vision and health/function of the eyes along with the student's communication with an Optometrist, Ophthalmologist. Always obtain an eye exam by an Ophthalmologist and medical exam by a Medical Doctor.

Choose a Bates Method Behavioral Ophthalmologist, Optometrist and Medical Doctor that prefers natural health treatment, prefers to teach Natural Eyesight Improvement, discontinue use of eyeglasses, keep the eyes healthy and prevent use of eye surgery, drugs. Avoid eye doctors selling laser and other eye cornea surgeries, drugs that are not needed, unnecessary lens removal/surgery, eyeglasses (especially strong over-corrected eyeglass lenses), unnecessary, addictive astigmatism sections in the glasses, contact lenses, bifocals, mono-vision lenses, plus lens treatment, tinted, colored lenses, sunglasses and all types of eyeglasses. (Legal 20/40 reduced, weaker eyeglass lenses can be used temporarily, only if needed for driving, work... safety as the vision is improving. See a Behavioral Optometrist and on-line mail order low cost optical stores.)

An experienced eye doctor can detect health of the eyes and body by examining, looking at and into the eyes. Blood pressure, sugar levels, injury, stroke and many health conditions are reflected in the eyes, often in an early reversible stage.

An eye doctor experienced in iridology can determine health of organs, systems in the body. See the story of Ignatz Von Peczely, Physician, a man that cured a injured owl and noticed that the owls eyes, iris was altered when the bird was sick, injured and it returned to normal as the birds health healed.

Children - Read/use this books contents only with direction of, supervised by parents and a Bates Method Eye Doctor. Children and adults: do not us the Sunglass and other methods that are for application only by an experienced Bates Method Ophthalmologist. If in doubt about how to apply a method; ask a Bates Teacher and Bates Method Eye doctor. See 'Better Eyesight Magazine Illustrated with 500 pictures'.

Natural Eyesight Improvement normalizes, corrects the eyes pressure. If a person is taking drugs, eye drops... for Glaucoma, eye pressure or other eye conditions; to lower or raise the pressure; ask your eye doctor's advice first before applying Natural Eyesight Improvement. The drugs strength, amount to take, may need to be changed or the drug may need to be discontinued. The doctor must monitor the eyes pressure as the person practices Natural Eyesight Improvement. Natural Eyesight Improvement also changes the eyes, corneas shape; back to normal, healthy shape. If the eye, cornea, retina has been operated upon, surgery; speak to your eye doctor first before applying Natural Eyesight Improvement to be sure it does not interfere with the surgery. Detached retina surgery... Read the laser cornea surgery articles in this book. I have communicated with Natural Eyesight Improvement Students that had; cataracts, glaucoma, holes, fluid leaking in the eyes retina, retinitis pigmentosa, other conditions and they have only benefited, regained good eye health and clear vision from practicing Natural Eyesight Improvement, The Bates Method and working with a Bates Method Ophthalmologist.

Dr. Bates proved that all these eye conditions are most always caused by mental strain, incorrect use of the eyes and outer eye muscle tension placing pressure, pulling, stretching, tension on/in the eye, cornea, lens, retina, distorting their shape, function, disrupting the focus of light rays in the eye, on the retina, impairing blood, oxygen, nutrient, fluid, energy circulation to, in, out of the eyes and tear production. (Tears contribute to clear vision by acting as a natural contact lens and keeping the cornea, eye healthy. People state their vision improves to clear, even cataracts clearing from the eyes after crying. Crying improves eye circulation, cleansing inside and outside the eye, and stretches, relaxes the muscles in the eyes, head, neck, shoulders.) Sunlight on the eyes, no eye or sun-glasses cures many eye problems, improves the clarity of vision. Outer & Inner eye muscle tension affects eye, lens, iris/pupil, tear... function, health of the eye, clarity of vision.

Neck, shoulder muscle tension is a major cause of eye muscle tension, eye muscle and eye nerve dysfunction, impaired circulation in the head, eyes and unclear vision. Extreme neck muscle tension can pull or tilt a neck vertebra temporarily out of alignment, placing pressure, pulling on the nerves in the neck that travel to/connect to the brain stem, brain, eyes, retina, eye muscles, ears. (Eyes, ears, balance and vision are connected, work together.) Blood, lymph vessels can be affected. Neck muscle tension alone can do this to a lesser degree.

The Author, assembler (Clark Night) of this book experienced a crossed/wandering eye condition with astigmatism, double vision, sinus inflammation, congestion, ear ringing, balance impairment from a neck injury, misaligned vertebrae, torn muscles, ligaments, injured nerves in the neck from a dishonest chiropractor. The Bates Method and a new, good chiropractor corrected the eye, vision, sinus condition.

Natural Eyesight Improvement, Dr. Bates Method relaxes the mind/brain, body, eye muscles, eyes, neck, returns all parts of the eye to normal shape, function, circulation, correct focus of light rays in the eyes for healthy eyes and clear vision at all distances.

BETTER EYESIGHT

A MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I **OCTOBER, 1919** **No. 4**

SIMULTANEOUS RETINOSCOPY

Much of my information about the eye has been obtained by means of simultaneous retinoscopy.

The retinoscope is an instrument used to measure the refraction of the eye. It throws a beam of light into the pupil by reflection from a mirror, the light being either outside the instrument—above and behind the subject—or arranged within it by means of an electric battery. On looking through the sight-hole one sees a larger or smaller part of the pupil filled with light, which in normal human eyes is a reddish yellow, because this is the color of the retina, but which is green in a cat's eye, and might be white if the retina were diseased. Unless the eye is exactly focussed at the point from which it is being observed, one sees also a dark shadow at the edge of the pupil, and it is the behavior of this shadow when the mirror is moved in various directions which reveals the refractive condition of the eye. If the instrument is used at a distance of six feet or more, and the shadow moves in a direction opposite to the movement of the mirror, the eye is myopic. If it moves in the same direction as the mirror, the eye is either hypermetropic or normal; but in the case of hypermetropia the movement is more pronounced than in that of normality, and an expert can usually tell the difference between the two states merely by the nature of the movement, In astigmatism the movement is different in different meridians. To determine the degree of the error, or to distinguish accurately between hypermetropia and normality, or between the different kinds of astigmatism, it is usually necessary to place a glass before the eye of the subject.

This exceedingly useful instrument has possibilities which have not been generally realized by the medical profession. It is commonly employed only under certain artificial conditions in a dark room; but it is possible to use it under all sorts of normal and abnormal conditions on the eyes both of human beings and of the lower animals. I have used it in the daytime and at night; when the subjects were comfortable and when they were excited; when they were trying to see and when they were not; when they were lying and when they were telling the truth. I have also used it, under varying conditions, on the eyes of many cats, dogs, rabbits, birds, turtles, reptiles and fish.

Most ophthalmologists depend upon the Snellen test card, supplemented by trial lenses, to determine whether the vision is normal or not, and to determine the degree of any abnormality that may exist. This is a slow, awkward and unreliable method of testing the vision, and absolutely unavailable for the study of the refraction of the lower animals and that of human beings under the conditions of life. The test card can be used only under certain favorable conditions, but the retinoscope can be used anywhere. It is a little easier to use it in a dim light than in a bright one, but it may be used in any light, even with the strong light of the sun shining directly into the eye. It is available whether the subject is at rest or in motion, asleep or awake, or even under ether or chloroform. It is also available when the observer is in motion. It has been used successfully when the eyelids were partly closed, shutting off part of the area of the pupil; when the pupil was dilated; also when it was contracted to a pin-point; when the subject was reading fine print at six inches, or at a greater distance; and when the eye was oscillating from side to side, from above downward, or in other directions.

It takes a considerable time, varying from minutes to hours, to measure the refraction with the Snellen test card and trial lenses. With the retinoscope, however, the refraction can be determined in a fraction of a second. With the Snellen test card and trial lenses it would be impossible to get any information about the refraction of a baseball player at the moment he swings for the ball, at the moment he strikes it, and at the moment after he strikes it. With the retinoscope, however, it is quite easy to determine whether his vision is normal, or whether he is myopic, hypermetropic, or astigmatic, when he does these things; and if any errors of refraction are noted, one can guess their degree pretty accurately by the rapidity of the movement of the shadow.

With the Snellen test card and trial lenses conclusions must be drawn from the patient's statements as to what he sees; but the patient often becomes so worried and confused during the examination that he does not know what he sees, or whether different glasses make his sight better, or worse; and, moreover, visual acuity is not reliable evidence of the state of the refraction. One patient with two diopters of myopia may see twice as much as another with the same error of refraction. The evidence of the test card is, in fact, entirely subjective; that of the retinoscope is entirely objective, depending in no way upon the statements of the patient.

SAVE A TREE – PLEASE PRINT THIS BOOK ON 100% RECYCLED PAPER WITH ORGANIC ENVIRONMENTALLY SAFE INK

The following poem was taken from a current magazine, but its discrepancies were so apparent that I could not pass it unchallenged.

E. A. M.

MY EYEGLASSES

Little helpmates yoked together,
Twin-born servants of mine,
How your presence helps and cheers me,
You barriers of time.

Many days have laboring men
In mines across the sea
Spent searching for the components
To solve your mystery.

Glistening eyes and dainty rima,
Exquisite mountings, too,
What dreary days of solitude
Had I not met with you.

Sometimes I lay you out of place,
A place I cannot see,
And then it seems part of myself
Has gone away from me.

And then I pause to wonder how
You ever could be here,
What genius burned the midnight oil
To make your portals clear.

I have no means to show the depth
Of my gratitude to you.
My eyes will flood with burning tears
When your services are thru.

I herewith seal this solemn vow
That henceforth you will be
Kept clean from dust and fingerprints
While you are serving me.

My Eyeglasses

By EMILY A. MEDER

THE sentimental poem given above evidently required a good deal of forethought and concentrated effort to devise. We wonder, however, if this anonymous genius had spent the time taken to create this gem, by reading Dr. Bates' book, and practicing the method as outlined by him, whether he would not have written a masterpiece. He would have discarded his "twin-born servants," attained better eyesight, and we know, would have been benefited physically.

With apologies to the author, I am going to dissect this "child of his brain" to see what it is made of. As the surgeons say, this might be painful and uncomfortable, but it is for the patient's eventual good.

Like a great majority of people this man believes that glasses have to be put on when one has attained a certain set age. I suppose that we must be grateful that theorists have not ordained that we place splints on our arms and legs to prevent old age attacking them prematurely. However, as all know, who have read Dr. Bates' book,

and who have been treated by him, the eyes are no more delicate than any other part of the anatomy. When we read the sentence, "You barriers of time," it seems as ludicrous to us as the opinion people held in the olden days when they ridiculed Columbus for thinking the earth round. We might fittingly change that sentence to read "You hasteners of time."

The author continues to relate the labor men were put to, "to make these portals clear." We admit that a great deal of time was spent to make the glasses ornate. But this did not in any material way add to their usefulness and value. We know that when people purchase glasses they spend a good deal of time making sure that they look well in them. There is always a heated and lengthy debate as to whether tortoise shell or gold is more studious looking, or whether rimless glasses add to one's dignity. Men may have exhausted their energy in "mines across the sea," and I have a mental picture of them using their life forces to attain—nothing. It makes me think of the squirrel on a revolving wheel. The faster he works, the more energy he uses, and he is eventually exhausted, getting nowhere. The trouble with the old oculists is that they were started on the wrong track, and stayed there, without looking for an avenue of escape. Like the labyrinth in mythology, they walked and walked and went back and forward, in a ceaseless round, with no one to show them the one way out. To follow the metaphor you may remember the story of the cruel giant who put all the fair young maidens in the labyrinth and left them to die. But one maiden obtained a ball of twine and fastened it to the entrance of the cavern. As she was lead deeper and deeper into the intricate passages, she let out the cord. Upon being left alone, she called all the unfortunate prisoners to her, and they followed the right path back, as indicated by the ball of twine. This story always occurs to me when I think of Dr. Bates' work. As all the others are lost in a maze of theories, his wonderful truth is the string of hope to cling to when escaping the awful giant—bad sight and glasses.

AVOID LASER CORNEA EYE SURGERY AND OTHER CORNEA SURGERIES. LASER AND OTHER CORNEA EYE SURGERIES CAUSE EYE HEALTH IMPAIRMENT, UNCLEAR VISON, A VARIETY OF VISION PROBLEMS INCLUDING BLINDNESS

Eye surgeons advertise expensive cornea surgery to improve the clarity of distant and close vision but are not required to warn the patient about all of the side effects the surgery causes. The eye surgeon does not tell the patient the truth; that many different types of vision impairment and blindness can, has and will occur due to cornea laser surgery.
A woman on a television news show described how laser cornea surgery has caused her to be blind at night and in low light. She cannot go outside at night due to extreme glare, halos from lights.
Other vision impairments have developed, unclear daytime vision, reading vision. This condition is permanent. The woman says the cornea surgery has ruined her life.

In 2008 - Television news broadcast - a father telling about how his son was so depressed, his life miserable due to the incurable eye problems, near blindness, eye pain he suffered caused by laser cornea eye surgery. The son committed suicide.
Many people have impaired vision due to cornea surgery.
Read Laser surgery side effects warning - FDA; www.fda.gov Click medical devices, lasik.

See YouTube videos on eye/vision impairment caused by lasik.
Type in 'laser surgery, suicidal patients'. http://www.youtube.com/watch?v=976O9G6Dno0

Also see website, YouYube videos: www.lasikcomplications.com
Many patients are developing cataracts after laser cornea surgery.

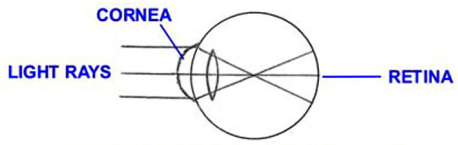
Some of the side effects of laser and other cornea surgeries are;
The surgery destroys, weakens the cornea's structure. Part of the cornea is permanently removed.
Cornea injury, ulcers, scars, infection in the cornea and eye, waves, uneven and torn areas in the cornea and other impairments occur resulting in; vision less clear than it was before surgery at close and far distances, double, triple vision, astigmatism, dizziness, cloudy, dull vision, haze, spots in the visual field, impaired tolerance to light and large halos, glare from indoor lights, from sunlight and from lights at night resulting in night blindness and low daylight vision.
The peripheral field of vision is lowered and the central field becomes unclear.
Increased cornea structure impairment occurs. Many people have become blind right after the surgery or a short time into the future after the surgery. The permanently weakened cornea is easily injured and the person must avoid certain activities, sports, climates, altitudes... for life. Even a soft touch of the hand, a blanket, sleeve... to the cornea can injure it. Cornea injury can occur from a light blow to the body, head.
Pilots, various government, military persons and people in certain occupations are not allowed to have cornea surgery.
Some surgery results in clearer than 20/20 vision but this is temporary and the clarity of vision goes below 20/20 in a short time. Most people still need eyeglasses after cornea surgery.
Cornea surgery causes the eyes to feel tired and the clarity of vision to lower during the day and become more unclear at night. Most cornea surgery patients need permanent use of eyeglasses at night and in dim light. The eyeglasses then cause and increase eye muscle tension, abnormal eye/cornea shape and vision impairment resulting in eyeglass prescriptions for the day and night at close and far distances. More vision impairment occurs and stronger and stronger eyeglass prescriptions are prescribed causing increased eye muscle tension, abnormal eye shape with pulling, stretching, tension on/in the eye, cornea. The surgically weakened cornea develops waves, tears, ulcers. Multiple eye problems develop. Cornea transplants and other eye surgeries are needed.

The eyes cornea and lens absorb/control the amount of sunlight and UV light that enters the eye, protecting the eye from over exposure to sunlight, UV light. Cornea surgery; removing part of the cornea destroys this natural eye function. Cornea surgery leaves the cornea, iris/pupil, lens, retina overexposed to sunlight/UV light and overexposed to unhealthy partial spectrum artificial light.
This can result in impaired eye health, damage to the cornea, lens, retina... causing pupil malfunction, cataracts, macula degeneration, and other retina damage, unclear vision and other eye problems, including blindness.
Abnormal pupil enlargement in sunlight, artificial light and in dim light occurs. This also causes a abnormally large amount of sunlight and unhealthy partial spectrum light to enter the eyes.

DANGERS OF LASER AND OTHER CORNEA EYE SURGERIES

LASER AND OTHER CORNEA EYE SURGERIES CAUSE CORNEA INJURY, UNCLEAR EYESIGHT AND OTHER EYE PROBLEMS

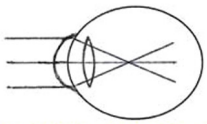
1 NORMAL ROUND EYE SHAPE.
CORNEA NORMAL, NO CORNEA SURGERY.



LIGHT RAYS FOCUS CORRECT ON THE RETINA.
DISTANT VISION IS CLEAR.
THE EYE LENGTHENS SLIGHTLY FOR CLEAR CLOSE VISION.

---

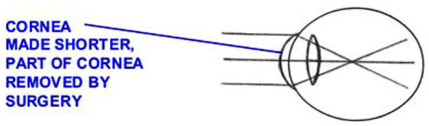
2 ABNORMAL LENGTHENED EYE SHAPE DUE TO OUTER EYE MUSCLE TENSION. NO CORNEA SURGERY.



LIGHT RAYS FOCUS INCORRECT BEFORE THE RETINA.
DISTANT VISION IS UNCLEAR.
CLOSE VISION ALSO BECOMES UNCLEAR IF INCREASED EYE MUSCLE TENSION AND LENGTHENING OF THE EYE OCCURS.

---

3 AFTER CORNEA SURGERY.
EYE SHAPE STILL ABNORMAL, LENGTHENED.
EYE MUSCLES STILL TENSE.

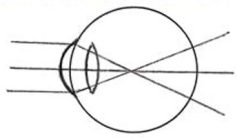


PART OF THE EYES CORNEA HAS BEEN PERMANENTLY REMOVED BY LASER OR OTHER SURGERY.
THE CORNEA IS SHORTENED IN AN ATTEMPT TO MAKE THE EYE CLOSER TO A ROUND SHAPE TO IMPROVE FOCUS OF LIGHT RAYS IN THE EYE. LIGHT RAYS FOCUS BETTER, CLOSER TO THE RETINA, BUT OFTEN FOCUS IMPERFECT. DISTANT VISION IS CLEARER BUT NOT PERFECT.

---

4 5 MONTHS AFTER CORNEA SURGERY. VISION IS MORE IMPAIRED THAN BEFORE SURGERY.

IN DIAGRAM # 4 IT IS 5 MONTHS AFTER CORNEA SURGERY.
THE EYE MUSCLES HAVE RELAXED, NATURALLY AND THE EYE HAS RETURNED TO NORMAL SHAPE..
THE LIGHT RAYS SHOULD FOCUS CORRECT AND DISTANT VISION SHOULD BE CLEAR, BUT, THE CORNEA HAS BEEN PERMANENTLY SHORTENED, IMPAIRED BY SURGERY AND THE CORNEA CANNOT RETURN TO NORMAL SHAPE WITH THE EYE.



THIS CAUSES THE EYE TO BE TOO SHORT CAUSING LIGHT RAYS TO FOCUS INCORRECT BEYOND /BEHIND THE RETINA.
DISTANT AND CLOSE VISION ARE UNCLEAR.
THE CORNEAS STRUCTURE IS ALSO WEAKENED AND EASILY INJURED, INFECTED, SCARRED RESULTING IN ASTIGMATISM, HAZE, BLIND SPOTS, OTHER VISION PROBLEMS INCLUDING BLINDNESS.
THE CORNEA, IRIS, LENS, RETINA IS ALSO OVEREXPOSED TO LIGHT DUE TO IMPAIRED STRUCTURE, FUNCTION, SIZE, THICKNESS OF THE SURGICALLY ALTERED CORNEA. CATARACTS, MACULA DEGENERATION AND OTHER EYE INJURY OCCURS.
LASER AND OTHER CORNEA SURGERIES CANNOT BE REVERSED.

Eye muscle tension causes abnormal eye/cornea shape, incorrect focus of light rays in the eye and unclear vision. See picture # 2.

Natural Vision Improvement relaxes the eye muscles and returns the eye/cornea to normal shape with correct focus of light rays in the eye with clear vision at close and far distances without use of surgery, eyeglasses. The cornea remains whole, strong and healthy. See picture # 1.
A normal round eye shape, relaxed eye muscles keeps normal pressure/circulation in the eye, retina, lens, cornea... resulting in healthy eyes and prevention of cataracts, macula degeneration, glaucoma and other eye problems.

Contact lenses also impair the shape and health of the cornea.
Read more in the introduction, beginning of this book.

This causes the eye problems listed above. Cornea surgery impairs the eyes natural tolerance to sunlight and artificial light. The eyes hurt, are sensitive in all types of light. This causes the person to wear sunglasses, tinted and UV blocking eyeglass lenses which are addictive, cause and increase vision impairment, close and distant blur, and causes more abnormal pupil enlargement, further impairs the eyes tolerance to light. The enlarged pupil increases the eyes exposure to unhealthy partial spectrum light that passes through the sunglasses, tinted, UV blocking lenses.
All eyeglasses, contact lenses; plain, tinted, UV blocking, dark, colored...cause partial spectrum light to enter the eyes, brain, body, cause abnormal pupil enlargement and impair the eyes tolerance to light.

The sunglasses, tinted, UV blocking lenses also block out full spectrum sunlight causing a constant flow of unhealthy partial spectrum sunlight and even more unbalanced partial spectrum artificial light to enter the

eyes, brain, body. Health and function of the eyes, brain, body become impaired.
Cataracts, macula degeneration, detached retina and other eye problems occur.
Sunglasses, tinted, UV blocking lenses and plain eyeglasses cause and increase vision impairment resulting in prescriptions for eyeglasses.

The cornea and lens refract, bend, focus light rays in the eyes. Cornea - 80% Lens - 10%.
Removing part of the cornea by surgery impairs the corneas natural focus of light rays.

Outer eye muscle tension can cause a abnormal eye/cornea shape with incorrect focus of light rays in the eyes and unclear vision. When the eye muscles relax due to natural causes; relief of stress and mental strain, improved diet and health, good posture, relaxation of the neck.., use of Natural Eyesight Improvement; Correct Vision Habits, relaxation... the eye returns to normal shape with correct focus of light rays and clear vision.
(Correct Vision Habits and other Natural Eyesight Improvement states can occur automatically, without the person learning, consciously using Natural Eyesight Improvement because; it is the normal function of the eyes. The visual system always returns the eyes to normal correct function.)

Cornea surgery does not correct the cause of unclear vision. Cornea surgery does not relax tense eye muscles, does not remove; stress, mental strain, use of Incorrect Vision Habits, does not return the eye to normal shape, does not remove abnormal pressure, tension, pulling, stretching on/in the eye, retina, lens, cornea, does not improve circulation to, in the eye.

Example; the eye surgeon cuts off part of the eyes cornea in an attempt to make the shape of the eye closer to a normal round shape with better focus of light rays in the eye for clearer distant vision.
(see picture)

If, in the future, after cornea surgery, the eye muscles relax due to natural conditions; relief of stress, strain, improved diet, health, better job, life situation... using the eyes correct with relaxation, Correct Vision Habits, Natural Eyesight Improvement, correct posture, relaxed neck and other natural causes and the eye returns to normal shape; the surgically altered, impaired cornea will be too flat and cannot return to normal shape and function with the eye. This causes the eye to be too short.
(see picture 4) Focus of light rays in the eye are now more impaired than before surgery. Light rays focus beyond the retina resulting unclear close and distant vision.
The weakened, impaired cornea stretches, pulls, experiences tension, pressure as it tries to return to normal shape with the eye. This causes the cornea to develop waves, uneven areas, ulcers. Infection in the cornea and eye, scars occur resulting in unclear vision, astigmatism, blind spots, large halos, glare from lights and other eye problems.

The cornea also changes shape with the eye when the eye lengthens slightly when looking at close distances and returns to a round shape when looking at far distances. The surgically weakened, impaired cornea will not be able to change shape perfectly with the eye-the cornea will stretch, pull, develop waves, uneven areas causing blur, astigmatism, glare and other eye problems.

It is normal for the shape of the eye and cornea to change, fluctuate slightly and this can occur often; within a second, minute, hour, day...causing the clarity of vision to fluctuate slightly and temporarily; clear, little less clear and back to clear. A surgically altered cornea will cause the temporary state of less clear vision to be increased. The vision is much more unclear.
When the cornea is normal, not altered by surgery, temporary states of less clear vision are slight and are usually not noticed. The clarity of vision always fluctuates back to normal when eyeglasses, surgery are avoided.

Natural Eyesight Improvement keeps the vision clearer than 20/20; to 20/15, 10, 5, 40/20...
When temporary fluctuations of clarity occur, vision goes from 20/5, 20/10 to 20/15, 20/20, occasionally to 20/30, 40 and then returns back to clearer than 20/20.
Vision rarely goes less clear than 20/20, 20/30.

Cornea surgery does not remove the underlying cause of unclear vision; does not remove eye muscle tension, mental strain, use of Incorrect Vision Habits, neck tension... and abnormal eye shape.

After cornea surgery eye muscle tension may increase, causing the shape of the eye to become more abnormal. This will also impair focus of light rays in the eye and result in unclear eyesight.
(Example; cornea surgery was done for a eye that is abnormally lengthened. The eye surgeon cut, shortened the shape of the cornea to fit that specific eye shape. If, after surgery, the eye muscle tension and abnormal

eye shape increases: the surgically altered cornea will not fit the eye, cannot change shape with the eye.) Increased pulling, stretching on the cornea occurs resulting in cornea injury and vision impairment as described previously.

Wearing eyeglasses after cornea surgery will increase the eye muscle tension, abnormal eye shape (increased lengthened, shortened, irregular shape), vision impairment and cornea, eye injury. Stronger and stronger lenses are prescribed causing more vision impairment.

(Contact lenses must never be worn after cornea surgery because the contacts easily injure and infect the weakened cornea. Contacts cause injury even to a healthy, strong non-surgically altered cornea.)

The same side effects occur due to cornea surgery to steepen, (raise, lengthen) the cornea in an attempt to improve close vision and altering the shape of the cornea to treat astigmatism.
All these surgeries involve permanently removing part of the cornea, removing a healthy, normal part of the eye. This is poor medical practice, breaks a medical law: 'Do not harm, destroy healthy tissue'.
Notice that cornea surgery applied in an attempt to obtain clearer distant vision is done to make a lengthened eye more round and, that, cornea surgery to obtain clearer close vision is done to make a shortened eye longer but; eye doctors, surgeons refuse to admit that a abnormally lengthened or shortened eye/cornea shape is caused by outer eye muscle tension and that the eye muscles can be relaxed naturally with Natural Eyesight Improvement enabling the eye, cornea to return to normal shape with clear close and distant vision, thus avoiding cornea eye surgery.

(Cornea surgery is necessary sometimes for treating a eye cornea injury, possibly infection... if other, preferably natural methods, cannot save the eye, vision.)

Natural Eyesight Improvement (no glasses, no surgery) relaxes the eye muscles and returns the eye to normal healthy shape with clear vision at all distances.

Natural Eyesight Improvement may improve the clarity of vision by relaxing the eye muscles if the eye muscles have become more tense after cornea surgery, but may result in less clear vision if the eye muscles completely relax and returns the eye to normal shape because the surgically impaired cornea will not be able to return to normal shape with the eye.
Increased eye muscle tension, further impairing the shape of the eye, cornea also can result in more vision impairment after cornea surgery. See Article below: (After contact lens warning pages.)

CONTACT LENSES CAUSE EYE INJURY

Cornea injury and vision impairment occur often due to wearing of contact lenses;
It is normal for the shape of the eye/cornea to change often, naturally, on its own. The shape of the eye/cornea can change, fluctuate in a second, minute, hour, day... It is impossible to prescribe a exact size/fit for contact lenses because the size, shape of the cornea is always changing. The contacts will never fit the cornea and will scrape, infect, injure, scar the cornea and eye.
Contact lenses enable bacteria, and a variety of germs to grow on the cornea and on/in the eyes. Contact lens solutions often contain bacteria, viruses and other contaminants that cause frequent cornea/eye infection and can and has caused blindness, loss of the infected eye.

ORTHO-KERATOLOGY; Fitting the eyes corneas with contact lenses that are a different size/shape than the cornea, to be used as braces on the corneas to try to force the cornea to change shape in an attempt to remove close and distant blur, astigmatism results in frequent cornea injury.

Because Natural Eyesight Improvement causes the shape of the eye and cornea to change as the eye muscles relax and the eye/cornea returns to normal shape; contact lenses must never be worn before, during and after use of Natural Eyesight Improvement - the contacts will not fit the changing cornea shape.
Never wear contacts at night, during sleep; the shape of the eye/cornea changes during sleep. The contacts will injure the eyes corneas during sleep. Any injury to the cornea can result in infection which can go into the eye and cause cornea/eye damage, vision impairment and blindness.
The eye, cornea changes shape often, a natural, normal function, with or without Natural Eyesight Improvement. This makes it impossible to prescribe a correct contact lens size.

ORTHO C-ORTHOCULOGY - A new method using contact lenses to force the cornea, lens, eye to change shape, force some eye muscles to become tense, stretch, and other eye muscles to un-contract in a abnormal state. This is unnatural and dangerous. People selling this method warn the patient that there are risks; cornea, eye infection, injury, permanent damage, abnormal eye and eye muscle function, dependence on the method and other eye, vision impairment.
Avoid these and all unnatural methods.

The Bates Method teaches that all the eye muscles must relax, function together, contracting and un-contracting in a coordinated, relaxed state. The eye, cornea, lens returns to normal shape on its own.

Contact lenses impair the shape of the eyes cornea causing a uneven cornea shape and astigmatism.
A uneven cornea is easily scraped, injured by contact lenses.
Contact lenses must not be worn when the cornea/eye contains astigmatism.
Astigmatism is caused by a uneven area in the cornea and abnormal eye/cornea shape.
The degree, type, shape, and placement of the astigmatism/abnormal eye/cornea shape/wave causing the astigmatism changes frequently.
Contact lenses will never fit the changing cornea shape.
Contacts often injure the cornea that contains astigmatism.

Contact lenses impair tear production, coating of tears over the eyes/corneas, cause abnormal pupil enlargement, impair tolerance to light, block oxygen, nutrient flow to the cornea. The cornea becomes dry, weak and injured. All contact lenses; soft, flexible, night wear... cause eye injury and act as eyeglasses causing increased vision impairment leading to prescriptions for stronger and stronger contact lenses and eyeglasses. Contact lenses impair; balance, coordination, blinking, shifting and other Correct Vision Habits. Contact lenses completely block out all full spectrum sunlight causing the eyes, brain, body to be constantly exposed to unhealthy partial spectrum light. UV blocking, tinted and colored contacts cause light to be more unbalanced and increase abnormal pupil enlargement.
Eyeglasses allow some full spectrum sunlight to enter around the edges of the frames.
No eyeglasses is best.

Avoid all cornea surgeries, contact lenses and eyeglasses.
Use natural eyesight improvement to relax the eye muscles and return the eye, cornea to normal shape with correct focus of light rays in the eye, clear eyesight at all distances and healthy eyes.

The Bates Method of Natural Eyesight Improvement cures many different eye problems. Natural Eyesight Improvement relaxes the outer and inner eye muscles causing the eye, cornea, lens to return to normal healthy shape, function. This condition along with neck muscle relaxation, movement improves circulation in the eye and normalizes eye pressure. This can reverse and cure glaucoma, cataracts and other eye problems.
(If taking drugs, eye drops to lower eye pressure to treat glaucoma, check with your eye doctor. As Natural Eyesight Improvement normalizes eye pressure, the drug may have to be reduced or discontinued.) Check with your Ophthalmologist if you have had or are going to have any eye surgery or are being treated with drugs for a eye condition and let him/her know you plan to apply Natural Eyesight Improvement. Most eye doctors prefer to sell surgery, drugs, eyeglasses and contact lenses. Find an eye doctor that teaches the Bates Method of Natural Eyesight Improvement and prefers to avoid surgery, drugs, eyeglasses, contacts.

Avoid Sunglasses. Sunglasses cause eye sensitivity to light, lowers natural light tolerance, lowers, impairs use of sunlight by the eyes, brain, body, causes watering, burning eyes, eye infections, sties, unclear vision, cataracts, and other eye diseases, impairs vitamin D and other nutrient absorption, hormone balance, sleep cycle and other functions. Sunglasses cause unbalanced, partial spectrum light to enter the eyes, brain, body. Sunglasses block healthy full spectrum sunlight.
Impairment of the health and function of the eyes, eye muscles, lens, retina, brain, left and right brain hemispheres and body occur due to lack of full spectrum sunlight and exposure to the unhealthy, unbalanced light entering the eyes through the sunglasses.

Natural Vision Improvement After Unsuccessful Eye Cornea Surgery - Is it Safe? Can it Reverse the Cornea Damage, Vision Impairment Caused by the Cornea Surgery?

Often, people that have had eye cornea laser surgery or other cornea, eye surgery to replace eyeglasses, contact lenses develop unclear vision, astigmatism, light sensitivity and other types of eye, cornea, vision impairment. This can occur immediately after the surgery or weeks, months, a year or more after surgery. They ask if Natural Vision Improvement-The Bates Method can restore the vision?

The cornea, in some ways is like the human liver and skin; there are cases that prove it has repaired itself. Eyes with cornea injuries, scars may repair naturally, the cornea heals similar to the way the skin heals from a cut, and clear vision returns. See Dr. Bates' *Better Eyesight Magazine* pdf. Type the word 'scar' using the search tool. Cornea surgery removes part of the cornea, weakening it. The cornea might repair itself after surgery if Natural Vision Improvement is used, but this is not definite. The cornea might be able to re-grow, return to full normal thickness, strength and shape or may not. Example;

Natural Vision Improvement relaxes tense eye muscles and returns the eyes' shape to normal, but; this might interfere with the surgically altered cornea which has been formed by the surgery to work with an abnormal eye shape, abnormal eye function, with tension... existing at the time of the surgery.
Cornea surgery, alteration, removal of part of the eye's cornea is done to match the abnormal eye shape, state of eye muscle tension causing the abnormal eye shape existing at the time of the surgery. The eye and muscles must remain in this abnormal shape, state, tension for the eye to see clear through the surgically altered cornea. A surgically altered cornea is like an eyeglass lens constructed for a specific abnormal eye/vision state. If the shape, state of the eye, muscles changes; becomes more impaired or improves; the eye can no longer see clear through that eyeglass lens prescription. Eyeglass lens strength can be changed; increased, reduced to match a new eye shape, state. BUT; a surgically altered cornea cannot be changed. Some surgeons attempt this resulting in much more cornea, eye, vision impairment.

Natural Vision Improvement might help the cornea rebuild its structure and work correct with the eye producing clear vision as the Natural Vision practice returns the eye to normal shape, or;
The improved eye shape occurring from practice of Natural Vision Improvement might pull on the surgically altered, weakened cornea, as the weakened cornea unsuccessfully tries to change shape with the eye as the eye changes back to normal shape. This can result in impaired cornea function; waves, tears in the cornea, blur, streaks, astigmatism, pain.., possible blindness.

After the cornea surgery a patient can develop increased eye muscle tension 'from the prescription in the cornea surgery' (which will increase abnormal eye shape). Or; less muscle tension might occur, relaxation might set in due to conscious or *automatic* Natural Vision practice/the vision, eyes' true function occurring *on it's own* (which changes the shape of the eye to a normal shape). As the surgically altered cornea tries to reform itself to fit the changing eye shape, this results in unclear vision;

Eye muscles more tense=more impaired eye shape=more impaired cornea shape=blur.

Eye muscles less tense, relax=eye shape returns to normal, but; the cornea cannot return to normal shape with the eye=cornea and eye do not fit/work together=blur.

If the surgically altered cornea can return to normal shape with the eye, without tension, injury; then the vision will be clear. If the surgically altered cornea cannot return to the normal shape to fit the changing eye shape; vision will be unclear and astigmatism, other vision impairment can occur.

The right amount of practice of the Bates Method *might* help the eye/cornea stay within a workable state; the right amount of balance, amount of eye muscle relaxation with improved eye shape, but not too much all at once,- and then, *if* the cornea can rebuild itself, in the future it might be able to fully, safely change shape with the eye into a state of complete, perfect eye/cornea shape, perfect-entire eye muscle relaxation and clear vision. Healing a cornea scar, injury is different than trying to replace, rebuild a section (piece) of the cornea that has been removed due to laser... surgery.

If a cornea surgery patient is getting clearer vision with Natural Vision Improvement and does not feel, see any problems with the cornea, vision; it might be ok, beneficial to continue the practice. If the cornea feels like it is pulling, stretching... or the vision starts to become blurry, astigmatism... occurs; take a break, *stop* practicing Natural Vision Improvement for a while and let the cornea have a chance to catch up to the improvement in eye shape.

Check with your eye doctor, get an eye, cornea exam (preferably by a Bates Method Ophthalmologist) FIRST before starting and returning to the Natural Vision Improvement practice.

Be aware that the visual system applies Natural Vision Improvement *even if you have never heard of, studied, practiced it.* This is due to it being the normal function of the eyes, vision, brain. Also; the eye changes shape with the lens when it looks close (accommodates) and far (un-accommodates). This could also affect a surgically altered cornea.

Another thing which may occur; If the prescription in the cornea created by the surgery causes increased eye muscle tension, more abnormal eye shape, blur (as eyeglasses do); A little bit of Natural Eyesight Improvement practice might relax the eye muscles just enough to return the muscles, eye back to the state, shape they were in when the surgery was done. Not a perfect state, shape but better. Then the vision might be as it was after the surgery. If it was clear back then, it might be clear now. But; just a bit of Natural Vision practice might cause the visual system to apply it 100%, completely relax the eye muscles, and produce a perfect eye shape. Then, the surgically altered cornea will not fit the improved eye shape.

Fluctuations in the vision are normal for everyone (people with clear and unclear vision); *clear, bit less clear, then back to clear.* During Natural Vision Improvement practice; some slightly double, triple... 'astigmatism like effect' images can occur as the vision is improving, the brain causing all eye muscles to relax, coordinate, eyes/cornea reversing back to normal shape, clear vision. It is harmless, indicates improvement is occurring. It clears up quickly with continued relaxation and Natural Vision practice. But; for a surgically altered cornea; this may not indicate a problem with the cornea, or; it could be a sign of cornea tension, pulling, injury occurring as the cornea tries to change shape with the eye's changing shape.

The cornea and lens protect the eye from over-exposure to sunlight. When the cornea is weakened, parts removed due to laser... surgery; the cornea, eyes' natural protection, tolerance to sunlight is impaired. I do not know if 'Sunning' is safe if the eyes have been treated with cornea surgery. Possible over-exposure can occur due to the weakened/surgically altered cornea. Also; If the cornea does not get some natural full spectrum sunlight, it will not stay healthy and growth, repair may be blocked. *The entire eye needs sunlight to remain healthy.* Closed Eyes Sunning only and some open eyes sunlight exposure by taking a walk outside daily wearing a hat with a brim, worn on and off may help. Check with your eye doctor first.

Combining cornea surgery with Natural Vision Improvement IS a RISK; vision impairment can occur. The BEST choice is to AVOID CORNEA SURGERY! If you had the surgery and want to try Natural Vision Improvement; work with a Bates Method Ophthalmologist. The eye doctor must monitor the eye, cornea, vision condition before, during and after practice of Natural Vision Improvement.

Is Practicing Natural Vision Improvement After Cataract Surgery Safe, Effective?

The lens' structure is different than the cornea, and because the lens is attached to the eye similar to but different than the cornea; if it has been treated with surgery, it may or may not be affected adversely when the eye changes back to normal shape with application of Natural Vision Improvement. Most cataract are caused by outer and inner eye muscle tension, abnormal eye shape, eyeglasses, contact lenses, lasik, drugs.

Also; When the lens changes shape with the eye as the eye changes shape to produce accommodation, un-accommodation when looking close and far; this function might be affected by the surgery. (At this time most artificial lens placed in the eye after cataract surgery cannot change shape.) Will the lens adjust to work with the eye, or can it be harmed as a surgically altered cornea can? Is a artificial or altered lens more easily injured, displaced? Note; modern eye doctors proved Dr. Bates and other doctors are correct; the eye and lens change shape together (like a camera) when looking close and far, adjusting to different distances.

Cornea surgery is done to change the cornea's shape to fit an abnormal eye shape.

Cataract surgery is done to remove part of or the entire lens to remove a cataract.

Dr. Bates writes about people that have had cataract lens surgery, then obtaining clear vision, accommodation, un-accommodation with The Bates Method of Natural Vision Improvement. See Dr. Bates' *Better Eyesight Magazine* for cataract surgery and Bates Method treatment results after the surgery, and Bates Method treatment to reverse, remove cataracts naturally *without cataract surgery.*

The cornea and lens absorb, control the amount of sunlight that enters the eye, lens; protecting the eye from over-exposure, sunburn. Removing part of the cornea, lens impairs this function. This can affect the cornea, iris/pupil muscle, pupil reaction to light and dark, the lens, retina and light traveling to the brain.

MENTAL STRAIN, EYE MUSCLE TENSION, ABNORMAL EYE SHAPE CAUSES UNCLEAR EYESIGHT
Dangers of, Vision Impairment Caused by; Laser Cornea Eye Surgery, Eyeglasses and Contact Lenses

Strain, tension in the mind, visual system, incorrect posture, shoulder, neck muscle tension, Incorrect Vision Habits cause eye muscle tension. Myopia, Fasight, Presbyopia... occur.

Tension in the outer eye muscles places pressure on/in the eye causing abnormal eye shape, incorrect focus of light rays in the eye and unclear vision. Muscles inside the eye (ciliary...) also become tense; function of the lens, iris, retina are impaired.

+Picture # 1 shows the Normal Round Eye Shape.
Eye muscles are relaxed.
Light rays focus correct on the retina.
+ The central light ray focuses on the center of the fovea centralis in the macula, in the center of the retina.
This produces the exact center of the visual field.
+ Peripheral light rays focus on the peripheral areas of the retina (all areas around, near and away from the macula and fovea) which produces the peripheral field of vision.
Distant vision is clear.

Dr. Bates states; The oblique muscles around the outside of the eye contract to slightly lengthen the eye to accommodate, focus divergent light rays on the retina for clear close vision. (like a camera.) They un-contract, return the eye to a round shape for clear distant vision.

+Picture # 2 shows a Abnormal Lengthened Eye Shape.
The eye is lengthened too much and is kept in this state due to tension in the oblique outer eye muscles.
Light rays do not focus on the retina.
Light rays focus incorrect before the retina causing unclear distant vision.

Close vision may be clear if the eye is not lengthened too much, but it is never perfectly clear when the distant vision is unclear.

Increased eye muscle tension causes increased lengthening of the eye resulting in unclear distant and close vision.

Addiction to eyeglasses is the main cause.

+Picture # 3 shows a Abnormal Shortened Eye Shape.
Caused by tension in the recti outer eye muscles pulling back on the front of the eye.
Light rays focus incorrect beyond the retina.

In early stages of eye muscle tension the eye may stay in a round shape unable to lengthen slightly when looking at close distances, and the lens' normal full movement is blocked resulting in unclear close vision.

Distant vision may be clear, but it is never perfectly clear when the close vision is unclear.

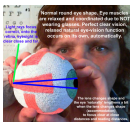
As eye muscle tension increases, the eye is pulled into a shortened shape causing unclear close and distant vision.

Addiction to eyeglasses is the main cause.

+Picture # 4 shows a Irregular, Uneven Eye Shape.
Caused by tension in one or more outer eye muscles, oblique and/or recti. The shape of the cornea is also uneven. Astigmatism, unclear vision result. This condition can occur with a abnormal lengthened or shortened eye shape.
Light rays focus incorrect; all or some light rays focus incorrect before and/or beyond the retina.

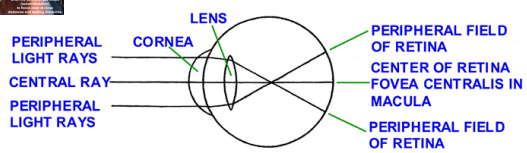
Uneven lens shape or dust, dirt... on the cornea, sinus pressure, incorrect posture, neck tension can also cause astigmatism. Addiction to eyeglasses is the main cause.

Eyeglasses, contact lenses CAUSE and INCREASE; strain, tension in the mind, eyes, eye muscles, abnormal eye shape, all the conditions listed in # 2, 3 and 4. Leads to detached retina, cataract, glaucoma and other conditions.



1

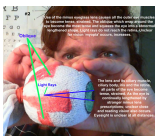
ROUND EYE - NORMAL
DISTANT VISION CLEAR
THE EYE LENGTHENS SLIGHTLY
FOR CLEAR CLOSE VISION

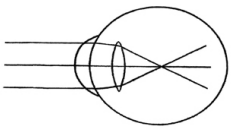


LIGHT RAYS FOCUS CORRECT ON THE RETINA

2

LENGTHENED EYE - ABNORMAL
DISTANT VISION UNCLEAR



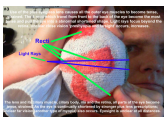


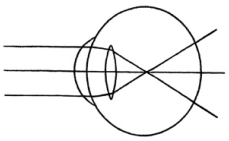
LIGHT RAYS FOCUS INCORRECT BEFORE THE RETINA
CLOSE VISION MAY BE CLEAR IF THE EYE IS NOT LENGTHENED TOO MUCH

Caused and increased by - minus lens distant vision eyeglasses.

3

SHORTENED EYE - ABNORMAL
CLOSE AND DISTANT VISION UNCLEAR



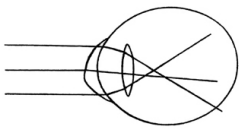


LIGHT RAYS FOCUS INCORRECT BEYOND THE RETINA

Caused and increased by + plus lens close vision eyeglasses.

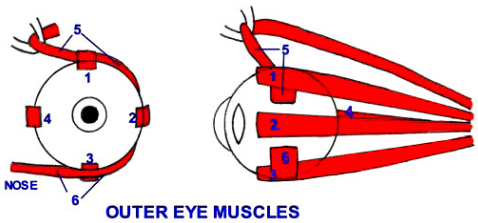
4

IRREGULAR EYE/CORNEA SHAPE - ABNORMAL
ASTIGMATISM AND UNCLEAR VISION



LIGHT RAYS FOCUS INCORRECT BEFORE AND/OR BEYOND THE RETINA

Caused and increased by - minus lens distant vision and/or + plus lens close vision eyeglasses.
A uneven long or short eye occurs.

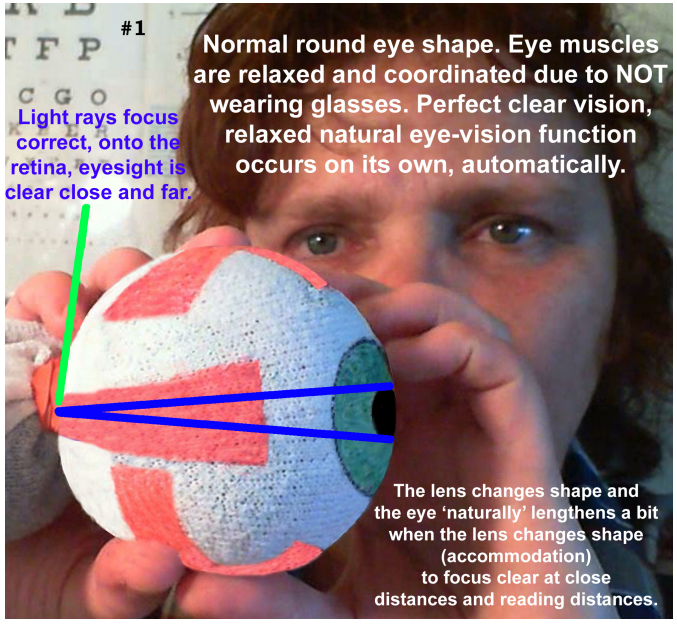


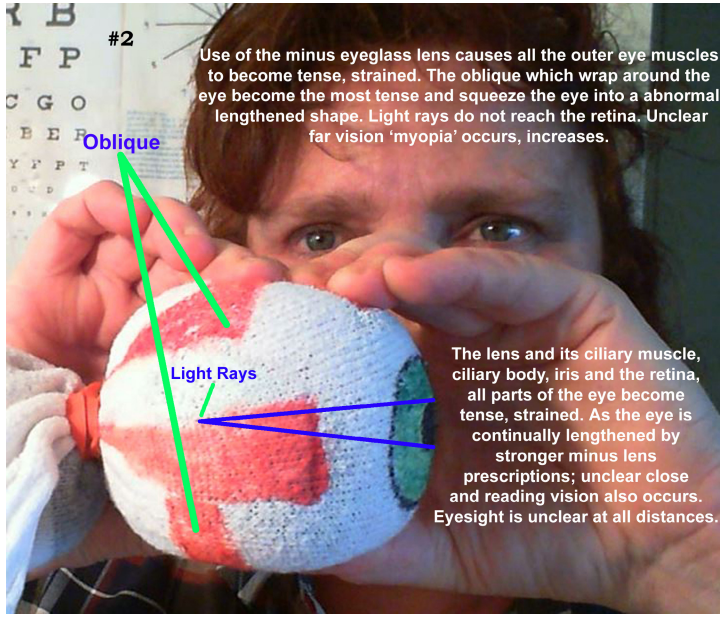
OUTER EYE MUSCLES
RECTI - # 1, 2, 3, 4
OBLIQUE - 5, 6

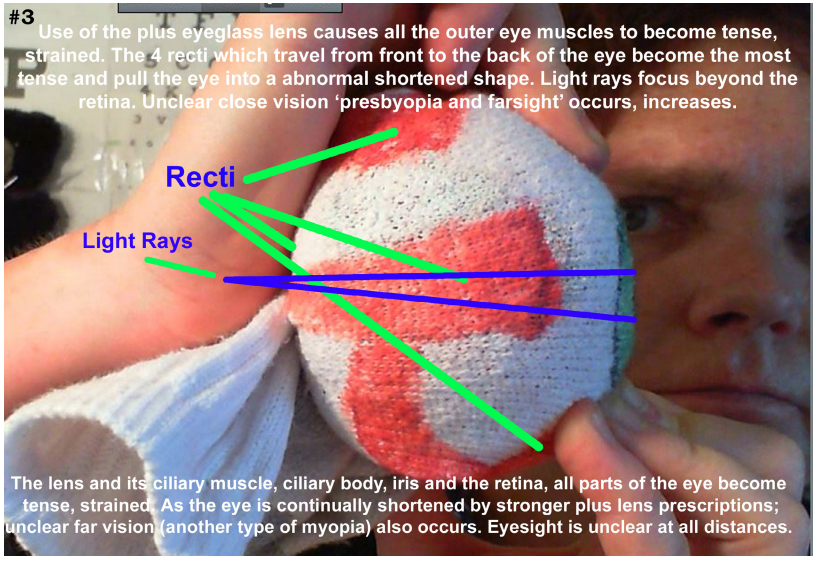
Incorrect vision habits, strain, eye muscle tension, abnormal eye shape cause; The central ray focuses incorrect onto the peripheral area of the retina. Peripheral rays focus incorrect onto the fovea centralis in the center of the retina. This impairs both central and peripheral vision, causes astigmatism and unclear vision at close and/or far distances. Eye movement 'shifting and convergence, divergence' are also affected by the conditions shown in pictures 2, 3, 4. The eyes lens' function, movement-shape can be affected. Incorrect focus of central and peripheral light rays onto the peripheral and central areas of the retina can occur when the eye is abnormally lengthened, shortened with or without a uneven shape.

Diagrams of abnormal eye shapes are accentuated for easy view.

Dr. Bates experiments proved that outer eye muscle tension alters the eyes' shape and disrupts the focus of light rays in the eye resulting in unclear eyesight. He also proved that the eye *naturally* lengthens a bit 'like a camera' by contraction of the outer oblique eye muscles to produce accommodation - clear close, reading eyesight.







STRONG EYEGLASSES = VISION IMPAIRMENT VERSES REDUCED, WEAKER LENSES = VISION IMPROVEMENT

WHAT GLASSES DO TO US

By W. H. BATES, M. D.

On a tomb in the Church of Santa Maria Maggiore in Florence was found the following inscription:
"Here lies Salvino degli Armati, Inventor of Spectacles. May God pardon him his sins."

The Florentines were doubtless mistaken in supposing that their fellow citizen was the inventor of the lenses now so commonly worn to correct errors of refraction. There has been much discussion as to the origin of these devices, but they are generally believed to have been known at a period much earlier than that of Salvino degli Armati. The Romans at least must have known something of the art of supplementing the powers of the eye, for Pliny tells us that Nero used to watch the games in the Coliseum through a concave gem set in a ring for that purpose. If, however, his contemporaries believed that Salvino of the Armati was the first to produce these aids to vision, they might well pray for the pardon of his sins; for while it is true that eyeglasses have brought to some people improved vision and relief from pain and discomfort, they have been to others simply an added torture, they always do more or less harm, and at their best they never improve the vision to normal.

That glasses cannot improve the sight to normal can be very simply demonstrated by looking at any color through a strong convex or concave glass. It will be noted that the color is always less intense than when seen with the naked eye; and since the perception of form depends upon the perception of color, it follows that both color and form must be less distinctly seen with glasses than without them. Even plane glass lowers the vision both for color and form, as everyone knows who has ever looked out of a window.

That glasses must injure the eye is evident from the fact that one cannot see through them unless one produces the degree of refractive error which they are designed to correct. But refractive errors, in the eye which is left to itself, are never constant. If one secures good vision by the aid of concave, or convex, or astigmatic lenses, therefore, it means that one is maintaining constantly a degree of refractive error which otherwise would not be maintained constantly. It is only to be expected that this should make the conditions worse, and it is a matter of common experience that it does. After people once begin to wear glasses their strength, in most cases, has to be steadily increased in order to maintain the degree of visual acuity secured by the aid of the first pair.

That the human eye resents glasses is a fact which no one would attempt to deny. Every oculist knows that patients have to "get used" to them, and that sometimes they never succeed in doing so. Patients with high degrees of myopia and hypermetropia have great difficulty in accustoming themselves to the full correction, and often are never able to do so. The strong concave glasses required by myopes of high degree make all objects seem much smaller than they really are while convex glasses enlarge them. These are unpleasantnesses that cannot be overcome. Patients with high degrees of astigmatism suffer some very disagreeable sensations when they first put on glasses, for which reason they are warned by one of the Conservation of Vision leaflets published by the Council on Health and Public Instruction of the American Medical Association to "get used to them at home before venturing where a misstep might cause a serious accident."

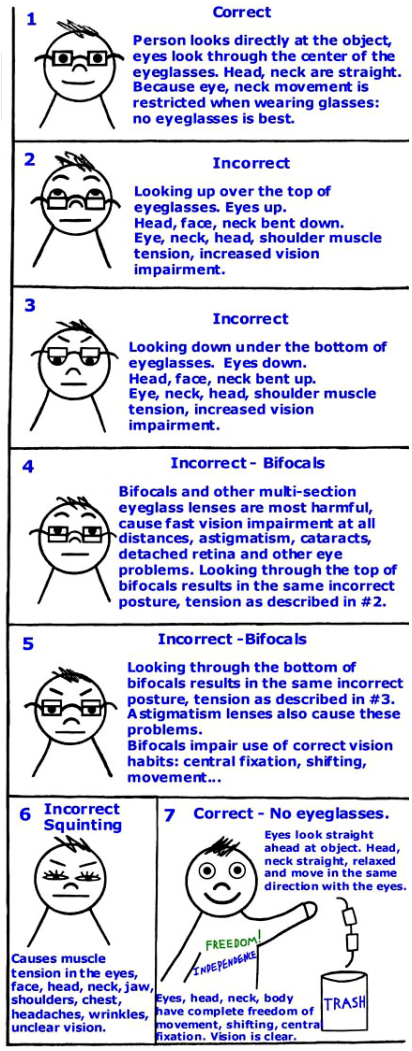
All glasses contract the field of vision to a greater or less degree. Even with very weak glasses patients are unable to see distinctly unless they look through the center of the lenses, with the frames at right angles to the line of vision; and not only is their vision lowered if they fail to do this, but annoying nervous symptoms, such as dizziness and headache, are sometimes produced. Therefore they are unable to turn their eyes freely in different directions. It is true that glasses are now ground in such a way that it is theoretically possible to look through them at any angle, but practically they seldom accomplish the desired result.

This Article from Ophthalmologist Bates 'Better Eyesight Magazine' July 1920.

Eyeglasses, contact lenses change the focus of light rays entering the abnormally shaped eye to bring the focus of light rays onto the retina resulting in clearer but not perfect vision through the eyeglass lenses. Eyeglasses, contacts do not improve the shape, function and health of the eye.
Eyeglasses, contact lenses cause and increase eye muscle tension, dysfunction, impairment of the shape, function, health of the eyes and clarity of vision.

The central ray might focus incorrect onto the peripheral area of the retina.
Peripheral rays might focus incorrect onto the fovea centralis in the center of the retina. This impairs both central and peripheral vision and causes astigmatism and unclear vision at close and/or far distances. Eye movement: shifting and convergence, divergence may be affected in pictures 1, 2, 3, 4.

Incorrect focus of central and peripheral light rays onto the peripheral and central areas of the retina can also occur when the eye is abnormally lengthened, shortened without a uneven shape.



Pictures of abnormal eye shapes are accentuated for easy viewing.

Eyeglasses, especially Bifocals block, impair; normal eye functions: shifting, central-fixation.., eye, head, neck, body movement. Eyeglasses, bifocals cause: Neck, shoulder, chest, and eye muscle tension, incorrect posture, fast, increased vision impairment, cataracts and other eye function, health impairment. Contact lenses interfere with normal eye function.

Avoid the incorrect eye, head, neck postures shown in the picture; Looking out over, under the top, bottom, sides of the eyes and/or eyeglasses. This Incorrect Vision Habit causes incorrect posture, blocks coordinated, synchronized movement of the eyes and head, face, body with the eyes, blocks central-fixation, normal eye shifting. The postures result in neck, shoulder, head and eye muscle tension, abnormal, uneven eye shape, unclear vision, astigmatism.

When wearing bifocals, trifocals or other multi-section lenses it is easy to accidently look through the wrong section of the lense. This occurs frequently when the lenses are made to appear as one single lense and occurs constantly when the lenses are composed of many sections. This results in increased vision impairment at all distances. Car, Airplane, accidents have occurred due to wearing these lenses.

Looking through the bottom or top of the bifocal lense restricts normal eye functions: central-fixation, 'shifting' eye movement, blinking. Incorrect head, neck, eye posture, extreme muscle tension result. The chest muscles become tight restricting the breath. All these cause unclear vision.

Avoid pushing, pulling the head, neck forward, up, down, back. Keep the head, neck aligned with the spine. Avoid moving the head up, down, left, right with the eyes in the opposite direction.
Looking over the top, bottom of eyeglasses and trying to look through the top or bottom section of bifocals, multi-section lenses causes these incorrect postures, habits.

Avoid eyeglasses, bifocals... Use correct posture:
Neck, head, back aligned, straight, relaxed.
Shoulders down, relaxed.
The eyes, head, face, body move together, in synchronization, face the same direction, at the object of visual attention, in the center of the visual field. See more pictures of incorrect postures in the Posture, Physical Therapy chapters.

Mono-Vision, Bifocal, Trifocal and other Multi-Section eyeglass and contact lenses have been investigated as a cause of airplane, vehical and other accidents.
The FAA (Federal Aviation Administration) does not approve the use of these lenses for pilots.

Avoid Plus Lense Therapy

A major cause of vision impairment is wearing eyeglasses that are too strong and the wrong type of lense.
+Looking to the distance through a eyeglass lense made for close vision or
+Looking at a close object through a eyeglass lense made for distant vision causes extreme strain, tension, dysfunction in the visual system, brain, eye muscles, eyes and fast, increased vision impairment.
Some Eye doctors sell Plus Lense Therapy: wearing close vision eyeglass lenses to cure unclear distant vision. This causes the same problems that occur when looking through the wrong eyeglass lense. Cataracts and other eye, vision impairment occur.
More Plus Lense information and picture in Chapter 4, Strong Eyeglasses...

Reading Glasses, Close Vision Lenses cause fast and increased vision impairment. Stronger lenses are usually prescribed within a year. Cataracts often develop after wearing close vision, reading glasses. It's not the Senior Citizen's age that causes cataracts, it is the stronger and stronger close vision, reading glasses & bifocals they are prescribed. Distant vision becomes unclear after wearing close vision lenses. Good nutrition, sunlight and discontinuing use of close and distant eyeglasses, sunglasses can reverse cataracts.

Reading Fine Print in the sunlight, (no eyeglasses) and shifting point to point on small details on objects at close distances improves the clarity of close and distant vision, prevents, reverses cataracts.

When the eyes look at fine print, shift, move the eyes (center of the visual field) on it (even if its blurry when beginning to practice) the eyes produce perfect, exact convergence, accommodation, central-fixation, Saccadic eye movements and perfect relaxation of mind, body, eyes. Fine print can be read perfectly clear only with perfect relaxation and reading it induces this perfect relaxation. Very clear vision occurs with practice. The function of the eye muscles improves to normal, the shape of the eye returns to round (slightly lengthened) when looking at the close fine print. Circulation in the eye, retina, lens improves. All this improves the clartiy of close vision and distant vision.
When the person looks from the fine print to the distance; the eye returns to a round shape (avoids abnormal lengthened shape) and distant vision is also clear.

Nutrition, relaxation and movement of the neck (improves circulation to the head, eyes and relaxes the eye muscles), avoiding drugs, sinus sprays also reverses, prevents cataracts and other eye health impairment. Senior citizens, people of any age develop cataracts, glaucoma... due to prescription and non-prescription drugs.

RELAXATION FROM FINE PRINT

A BUSINESS card, 3″ x 2″ with fine print on one side is held in front of the eyes as near as possible, the upper part in contact with the eyebrows, the lower part resting lightly on the nose.

The patient looks directly at the fine print without trying to see. Being so close to the eyes most people realize that it is impossible to read the fine print and do not try, in this way they obtain a measure of relaxation which is sufficient to benefit the sight very much.

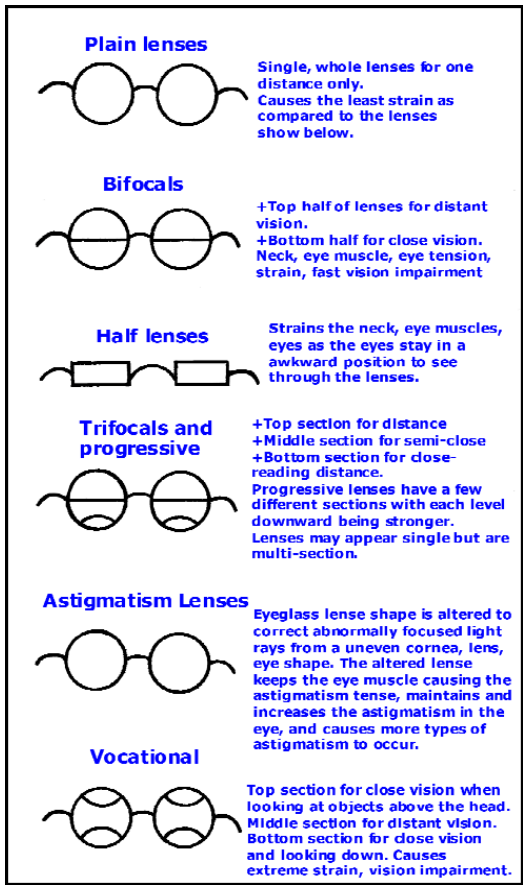
The patient moves the card from side to side a short distance slowly and sees the card moving provided the movement is not too short or too slow. The shorter the movement and the slower it is, the better.

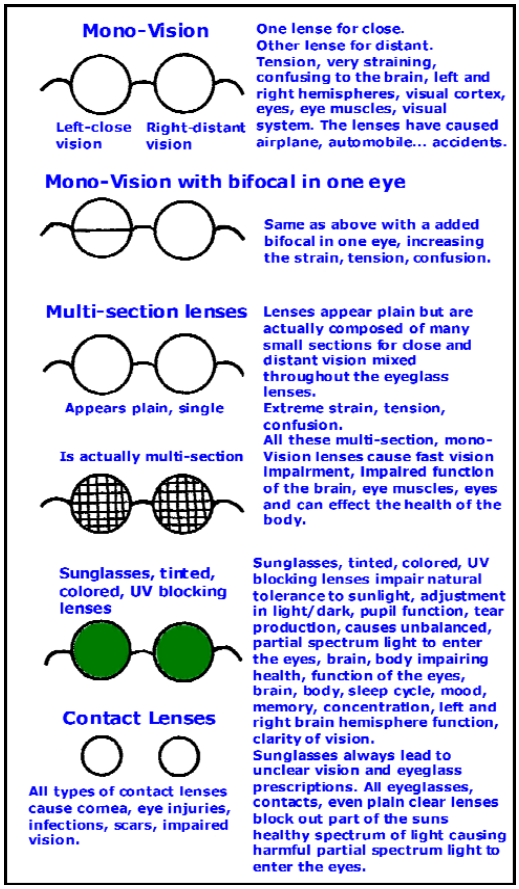
Some patients, although the card is held very close, note that the white spaces between the lines become whiter and the black letters become blacker and clearer. In some cases one or more words of the fine print will be seen in flashes or even continuously as long as no effort is made to see or to read the fine print.

This movement of the card should be kept up to obtain the best results, for many hours every day. The hand which holds the card may soon become fatigued; one may then use the hands alternately. Some patients vary this by holding the card with both hands at the same time.

The amount of light is not important.

Most eye doctors state that the lens changes shape top produce accommodation, clear close vision. Natural Vision Improvement also relaxes, returns the ciliary, iris, lens muscle to normal function.





Bifocals, Trifocals, Multi-section eyeglass lenses, Astigmatism lense additions, Mono-Vision lenses

Mono-vision eyeglasses: (lense for distant vision is in front of one eye and lense for close vision in front of the other eye.), and glasses with two different strength of lense for the left and right eyes (Example: lense for left eye stronger than lense for right), bifocals and all lenses shown in the picture cause chronic strain, tension, confusion, dysfunction in the visual system, brain, eye muscles, eyes. Coordination, contraction, un-contraction of the eye muscles is impaired. Shifting, central-fixation, true central vision, movement of the head/face and body with the eyes, switching close and far (convergence, accommodation, divergence, un-accommodation), binocular vision, fusion, peripheral vision, all correct eye functions are blocked, impaired. Function of the visual cortex, left and right brain hemisphere activation, integration, function and the entire brains function with the eyes, retina, nerves, eye muscles, eye movement.., memory, imagination, mathmatics.., debth, distance perception, 3-Dimensional vision, placement, size, shape of objects, time/speed/movement of objects, balance, coordination are all impaired. All brain functions are imperfect. Distance, size, time, speed... perception function together. When impaired: car... accidents can occur.

Movement of the neck is limited. Neck, shoulder tension, stiffness occur and travel into the body, back, legs, arms, head, face and eye muscles. Even the ear muscles, ear function is impaired. Dizziness from impaired eye/ear function, blur and astigmatism occurs.

Abnormal eye, cornea, lens shape occurs due to outer and inner eye muscle tension. This can cause unclear vision, astigmatism, cornea ulcers, detached retina, cataracts, macula degeneration, cross/wandering eyes.

The incorrect posture of the head, neck, body and extreme tension, pulling on the neck that occurs when looking over the top or under the bottom of eyeglass lenses or looking through bifocals, multi-section lenses is a main cause of lowered blood, nerve signal flow to the head, eyes & neck vertebrae mis-alignment, pulling, tension on the nerves, blood, lymph vessels in the neck, brain stem, eyes. This results in unclear vision, lowered eye health and other abnormal eye/vision conditions.

Mono Vision Eyeglass Lenses are very straining, confusing to the visual system, brain, eyes and is a frequent cause of car, pilot accidents: The person is forced to use one eye to see at a specific distance. The other eye sees objects unclear at that distance and clear at a different distance. All the eye problems listed above for multi-section and other lenses can occur. Amblyopia (dim, low, no vision in one or both eyes, brain shuts off the image in the eye/eyes.), crossed, wandering eyes can also develop.

Magnifying Glasses/glass, Microscopes, Telescopes, Binoculars, Prisms cause impaired vision. If you must use a magnifier, telescope, try to use it sparingly and integrate the Bates Method; Shift, central-fixation... when looking at a object through the instrument.
Look at other distances often, without the magnifier, telescope.

Astigmatism Lenses - The normal eye, corneas shape changes due to fluxuating 'eye muscle tension, malfunction' and 'relaxation, correct function'. The abnormal shape of the eye, cornea that is causing the astigmatism in the eye constantly changes, fluxuates. This makes it impossible to prescribe a correct prescription for astigmatism.

A prescription created for astigmatism occuring during a eye exam (often temporarily increased astigmatism due to nervousness, pressure to hurry and read the test card clear) is often incorrect. The person then wears glasses with a astigmatism correction that will cause the temporary astigmatism to remain and increase.
If the eye had astigmatism before the eye test, the astigmatism section in the eyeglass lense will maintain, increase the astigmatism, prevent it from fluxuating, reversing, removing itself from the eye. New types, angels of astigmatism occur.

If the eye does not have astigmatism, but the doctor finds 'or thinks he/she finds' a temporary astigmatism in the eye during the exam, the doctor will sell the patient eyeglass lenses with an astigmatism section in the lense. (Most of the standard eye doctor's eyechart tests for astigmatism can cause temporary astigmatism.)

The eye must now creat and maintain the specific amount, type of eye muscle tension, abnormal eye/cornea/lens shape to create, maintain the astigmatism in the eye in order to see clear through the astigmatism section in the eyeglass lense. The astigmatism is created, maintained, increased by the astigmatism section in the eyeglass lense and new types, angles of astigmatism and blur occur at all distances.

Plain single lense eyeglasses also cause the vision impairment listed in this chapter but not as much as multisection and astigmatism lenses.
Plain, reduced, weaker, 20/40 eyeglass lenses or no eyeglasses is best.

Sunglasses, Tinted, Colored, UV blocking Eyeglass and Contact Lenses

Sunlight enters the eyes, brain, body keeping the entire system healthy. (See the Sunlight and Color Treatment chapters.)

Sunglasses, tinted, colored, UV blocking eyeglass, contact lenses and plain eyeglass, contact lenses, windows block out part of the suns healthy full light spectrum causing a constant flow of unhealthy, unbalanced, partial spectrum light to enter the eyes, brain, body resulting in impaired health and function of the eyes, iris/pupil, lens, retina, all parts of the eye.

Unbalanced light energy travels into the brain and body resulting in disrupted function and lowered health of eyes, brain, body, all organs, glands, systems.

Function of the brain and brain with the eyes, left and right brain hemisphere activation/integration, memory, imagination, all brain functions are impaired.

Unclear vision, eye health impairment occurs, health of the cells in the retina, cones, rods, lens, all parts of the eyes are affected. Cataracts, macula degeneration and other eye problems develop.

The eyes, brain, body need Full Spectrum Sunlght.
Partial spectrum, unbalanced light disrupts the brain, body's production and balance of hormones, chemical actions such as melatonin, serotonin, HGH growth/repair hormone... Sleep cycle is disrupted. Depression, fatique, lowered immune system and other health impairment occurs.

The eyes, brain, body need UV light along with all of the suns light wavelengths, frequency's, that reach the planet consisting of all colors, the full spectrum.

Plain eyeglasses, contact lenses, sunglasses, tinted, colored and UV blocking lenses prevent the eyes normal, natural absorption of UV light, all light waves, full spectrum light. Adding UV blocking to any type of eyeglasse lense increases the amount of unbalanced light that enters the eyes.

Tinted eyeglass and contact lenses that automatically change color, darken: Change from light to dark when going outside into the sun and from dark to light when moving indoors are especially harmful to the eyes. They remain partially dark when inside causing a constant flow of unhealthy partial spectrum light to enter the eyes.

These and all eyeglasses, sunglasses, tinted... lenses impair function of the brain with the eyes, confuses the brain, impairs, weakens the eyes iris/pupil function: contraction in light, widening in dim light and the iris, eye, retina, cones, rods... natural adjustment to light and dark, production of visual purple...

The iris/pupil muscle is near, connects with the lens/ciliary muscle. When the iris muscle becomes impaired due to wearing sunglasses, any type of eyeglasses, the ciliary, lens muscle can also be affected.

Tolerance to sunlight and even indoor artificial light is lowered.

Abnormal glare, haze around lights occurs.

The person becomes addicted to the tinted and/or UV blocking eyeglass lenses and begins to wear sunglasses. This further weakens/impairs the eyes health, clarity of vision.

Most indoor artificial light is partial spectrum, unbalanced light. Wearing eyeglasses, tinted, colored lenses, sunglasses further decreases the light spectrum, increases the amount of unbalanced light entering the eyes.

Color Treatment: A natural Vision Improvement treatment: Exposing the eyes to colored light, all colors and if one brain hemisphere, part of the brain is supressed, extra exposure to specific colors for a certain length of time is done until the brain and hemispheres are balanced.

This improves vision at specific distances and in the left and right eyes.
All colors are also used to keep the brain balanced.

Colored eyeglass lenses are harmful: they cause one area, hemisphere of the brain to become dominant, suppressing other areas, hemispheres, brain functions.

Avoid sunglasses, all eyeglasses. Wear a hat with a wide brim to prevent over exposure to sunlight. Practice closed eye sunning and go outside daily, get natural full spectrum sunlight.

Avoid low cost reading glasses sold in 99 cent, drug stores

The lenses are not made by professionals. The lenses may contain uneven areas, waves in the glass/plastic, may not be balanced, centered properly.
This results in development of astigmatism, increased blur, unbalanced vision in the left and right eyes, impairs convergence, divergence, accommodation, un-accomodation, central-fixation, shifting, causes eyestrain, eye muscle tension, dysfunction, mental strain.

Avoid Second Hand eyeglasses from thrift stores, family, friends

Wearing eyeglasses that were prescribed for another person causes the new wearer to develop the same eye, vision condition that the lenses were prescribed, created for, the same eye condition the previous wearer had in addition to your present condition.
See the explaination in the section on astigmatism.
The eyes can only see clear through the second hand glasses by developing the specific eye problems, error of refraction the eyeglass lenses were made, prescribed for.
The eyeglass lenses will cause a specific form, level of eye muscle tension, dysfunction, abnormal eye/cornea shape, unbalanced, strained brain function to occur in order to develop the specific error of refraction (level/type of blur, astigmatism…) the eyeglass lenses were prescribed for in order to see clear through the lenses.

Use old Fashioned Wooden Eyeglass Frames Only.

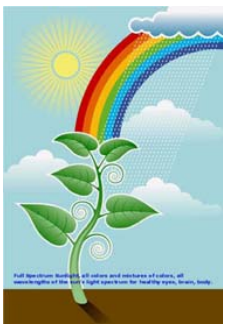
Pure wood, no chemicals, paint, varnish on/in the wood.
Avoid metal and plastic frames.
Metal eyeglass frames disrupt/block the body's natural chi and other energy flow in the body and around/in the eyes, head, brain. A Karate, Tai Chi instructor can explain this.
See chapters: Palming, Color Chart, Breathing, Energy Circulation. EFT.
Plastic frames contain toxic chemicals that can be absorbed through the skin.

Avoid Eyedrops.

Special note on eyedrops; Prescription and non-prescription eyedrops contain chemicals that impair eye health, lower the clarity of vision, cause headaches.
Sinus sprays also do this. The spray and chemicals travel into the eyes.

Eyedrops are addictive and cause dry eyes.
Eyedrops impair the eyes natural production of tears and the tears structure.
Eyedrops do not contain the same ingredients as natural tears.
Natural tears contain 3 layers consisting of water, salt, oil, natural antibiotic, nutrients…
Blink, shift, yawn to produce natural tears.
Use a warm steam humidifier with filtered water, no chlorine.
Avoid dry air, smoke, pollution. Drink water to avoid dry, red eyes.

Eyedrops placed in baby's eyes: silver nitrate… are mandatory in some countries to protect against eye infection/blindness at birth. Silver nitrate and other chemicals, some antibiotics, treatments cause eye injury, irritation, inflammation, redness, discharge of the eyes, lids, chemical conjunctivitis, infection, pain, impairs eye health, causes unclear vision for days after birth, blocking natural eye function and has led to permanent eye, vision damage, blindness.
The pain, distorted vision caused by the eye drops interferes with baby, mother bonding.
There must be a natural, safe treatment to prevent eye infection.



Full spectrum sunlight, all colors, mixtures of colors, all light wavelengths, frequencies, energy of the sun's light spectrum for healthy eyes, brain, body.

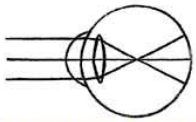
Full spectrum sunlight keeps day and night vision clear, improves the retinas production of visual purple, eyes adjustment to light and dark and other functions of the eye, retina, brain for clear day and night vision.

Picture above; Young Clark Night (Mary Iva Oliver) sitting in the sun in Aunt Betty, Mom's side yard. I remember the flowers, birds... They had a bird feeder attached outside the kitchen window. From inside we watched the birds, squirrels eat. Robins, blue jays and bluebirds, cardinals, sparrows, crows, squirrels, chipmunks... Town water was pure, could drink ice cold straight out of the faucet. Adventures with my five cousins and neighbors. Secret Agent club underground, hikes in the woods, climbing the 4 blue spruce and maple trees! Candy box hidden in the tree. Fun working with Mom Nancy in her new garden next door. Clear eyesight, no glasses. Stopped using them in 4th grade.

SAVE A TREE – PLEASE PRINT THIS BOOK ON 100% RECYCLED WITH ORGANIC ENVIRONMENTALLY SAFE INK

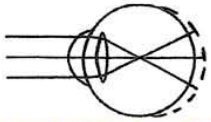
+RELAXED NORMALLY FUNCTIONING OUTER EYE MUSCLES = NORMAL EYE SHAPE = CORRECT FOCUS OF LIGHT RAYS ON THE RETINA = CLEAR VISION.
+TENSE EYE MUSCLES FUNCTION INCORRECT AND PLACE PRESSURE, TENSION, PULLING ON/IN THE EYE, CORNEA, LENS CAUSING ABNORMAL EYE, CORNEA, LENS SHAPE, INCORRECT FOCUS OF LIGHT RAYS IN THE EYE, BEFORE OR BEYOND THE RETINA AND UNCLEAR VISION.
WHEN THE LIGHT RAYS FOCUS CORRECT ON THE RETINA; THE CENTRAL RAY FOCUSES ON THE FOVEA CENTRALIS IN THE MACULA, CENTER OF THE RETINA.
THE PERIPHERAL RAYS FOCUS ON THE PERIPHERAL AREA OF THE RETINA. VISION IS CLEAR.
WHEN LIGHT RAYS FOCUS INCORRECT, BEFORE OR BEYOND THE RETINA, THE RETINA RECEIVES A UNFOCUSED IMAGE.
THE CENTRAL RAY FOCUSES INCORRECT ONTO THE PERIPHERAL FIELD OF THE RETINA AND THE PERIPHERAL RAYS FOCUS INCORRECT SCATTERING UNFOCUSED ON THE PERIPHERAL AREA OF THE RETINA AND ONTO THE FOVEA CENTRALIS IN THE CENTER OF THE MACULA/RETINA RESULTING IN UNCLEAR CLOSE AND DISTANT VISION AND ASTIGMATISM.

1 ROUND EYE - NORMAL DISTANT VISION CLEAR



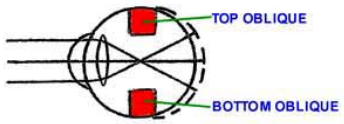
LIGHT RAYS FROM DISTANT OBJECTS FOCUS CORRECT ON THE RETINA.
THE OBLIQUE MUSCLES ARE RELAXED, DO NOT CONTRACT.
THE EYE REMAINS IN A ROUND SHAPE.

2 SLIGHTLY LENGTHENED EYE - NORMAL CLOSE VISION CLEAR



LIGHT RAYS FROM CLOSE OBJECTS FOCUS CORRECT ON THE RETINA
(SEE DOTTED LINE, LENGTHENED EYE)

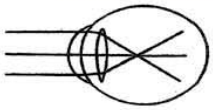
3 OBLIQUE OUTER EYE MUSCLES



THE OBLIQUE MUSCLES CONTRACT IN A RELAXED MANNER TO SLIGHTLY LENGTHEN THE EYE TO PRODUCE ACCOMMODATION AND CORRECT FOCUS OF LIGHT RAYS FROM CLOSE OBJECTS ON THE RETINA AND CLEAR CLOSE VISION.

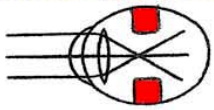
IN DIAGRAM # 4, LIGHT RAYS FROM DISTANT OBJECTS FOCUS BEFORE THE RETINA AND DISTANT VISION IS UNCLEAR. CLOSE VISION MAY BE CLEAR IF THE EYE IS NOT LENGTHENED TOO MUCH AND LIGHT RAYS FROM CLOSE OBJECTS CAN FOCUS CORRECT ON THE RETINA.

4 INCREASED LENGTHENED EYE - ABNORMAL DISTANT VISION UNCLEAR



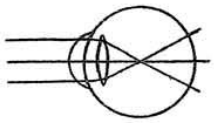
LIGHT RAYS FROM DISTANT OBJECTS FOCUS INCORRECT BEFORE THE RETINA

5 TENSE OBLIQUE MUSCLES CONTRACT TOO MUCH AND KEEP THE EYE IN A ABNORMAL, INCREASED LENGTHENED SHAPE.



INCREASED TENSION IN THE OBLIQUE MUSCLES CAUSES INCREASED LENGTHENING OF THE EYE.
LIGHT RAYS FROM DISTANT AND CLOSE OBJECTS FOCUS INCORRECT BEFORE THE RETINA RESULTING IN UNCLEAR DISTANT AND CLOSE VISION.

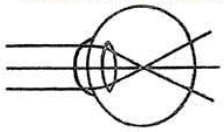
6 ROUND EYE - ABNORMAL FOR CLOSE VISION. CLOSE VISION UNCLEAR.



LIGHT RAYS FROM CLOSE OBJECTS FOCUS INCORRECT BEYOND THE RETINA.
TENSE RECTI MUSCLES KEEP THE EYE IN A ROUND SHAPE, PREVENTING THE EYE FROM LENGTHENING SLIGHTLY TO ACCOMMODATE AND ENABLE LIGHT RAYS FROM CLOSE OBJECTS TO FOCUS CORRECT ON THE RETINA.

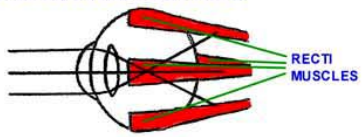
DISTANT VISION MAY BE CLEAR IF THE EYE REMAINS ROUND WHEN LOOKING AT DISTANT OBJECTS ENABLING LIGHT RAYS FROM DISTANT OBJECTS TO FOCUS CORRECT ON THE RETINA.

7 SHORTENED EYE - ABNORMAL CLOSE AND DISTANT VISION UNCLEAR



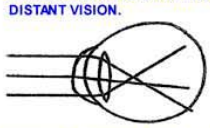
LIGHT RAYS FROM CLOSE AND DISTANT OBJECTS FOCUS INCORRECT BEYOND THE RETINA.

8 TENSE RECTI OUTER EYE MUSCLES KEEP THE EYE IN A ROUND OR SHORTENED SHAPE.

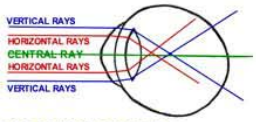


INCREASED TENSION IN THE RECTI MUSCLES CAUSE THE RECTI TO PULL BACK ON THE FRONT OF THE EYE, KEEPING THE EYE IN A SHORTENED SHAPE.
THE EYE CANNOT LENGTHEN SLIGHTLY FOR CLEAR CLOSE VISION AND CANNOT RETURN TO A ROUND SHAPE FOR CLEAR DISTANT VISION.
LIGHT RAYS FROM CLOSE AND DISTANT OBJECTS FOCUS INCORRECT BEYOND THE RETINA.
CLOSE AND DISTANT VISION ARE UNCLEAR.

9 IRREGULAR EYE, CORNEA SHAPE - ABNORMAL ASTIGMATISM AND UNCLEAR CLOSE AND DISTANT VISION.



10 ONE OR MORE TENSE OBLIQUE AND/OR RECTI EYE MUSCLES PULL, SQUEEZE THE EYE/CORNEA (AND SOMETIMES LENS) INTO A IRREGULAR SHAPE.



IN DIAGRAM # 9 AND 10; LIGHT RAYS FROM CLOSE AND/OR DISTANT OBJECTS FOCUS INCORRECT BEFORE AND/OR BEYOND THE RETINA.
THE IRREGULAR CORNEA, EYE, (SOMETIMES LENS) SHAPE BENDS THE LIGHT RAYS INCORRECTLY;
THE CENTRAL RAY MIGHT FOCUS INCORRECT AWAY FROM THE FOVEA CENTRALIS/CENTER OF THE RETINA AND FOCUS ONTO THE PERIPHERAL FIELD OF THE RETINA.
PERIPHERAL RAYS SCATTER UNFOCUSED ON THE PERIPHERAL FIELD AND ONTO THE FOVEA CENTRALIS IN THE CENTER OF THE RETINA.
VERTICAL AND/OR HORIZONTAL LIGHT RAYS FROM CLOSE AND/OR DISTANT OBJECTS FOCUS INCORRECT BEFORE AND/OR BEYOND THE RETINA RESULTING IN;
ASTIGMATISM; DISTORTED AREAS OF THE VISUAL FIELD; OBJECTS OR PARTS OF OBJECTS MAY APPEAR; WAVY, HAZY, DULL, BLURRED.
DOUBLE, TRIPLE...IMAGES OF OBJECTS MAY APPEAR.
THE EFFECT IS SIMILAR TO LOOKING THROUGH A WAVY PIECE OF GLASS.
DIZZINESS, IMPERFECT BALANCE CAN OCCUR DUE TO THE WAVY, AND OTHER ABNORMAL IMAGES IN THE VISUAL FIELD..
OTHER TYPES OF ASTIGMATISM WITH DIFFERENT FORMS OF INCORRECT FOCUS OF LIGHT RAYS CAN OCCUR.
ASTIGMATISM CAN OCCUR AT CLOSE AND/OR FAR DISTANCES AND USUALLY OCCURS WITH UNCLEAR VISION.
ASTIGMATISM CAN OCCUR IN ONE OR BOTH EYES.
ASTIGMATISM OFTEN CURES ITSELF. NATURAL EYESIGHT IMPROVEMENT REMOVES ASTIGMATISM.

STRONGER AND STRONGER EYE GLASS LENSES CAUSE AND INCREASE EYE MUSCLE TENSION, ABNORMAL EYE LENGTHENING, SHORTENING, IRREGULAR EYE SHAPE, VISION IMPAIRMENT AND LEADS TO CATARACTS, DETACHED RETINA, MACULA DEGENERATION, GLAUCOMA AND OTHER EYE PROBLEMS.

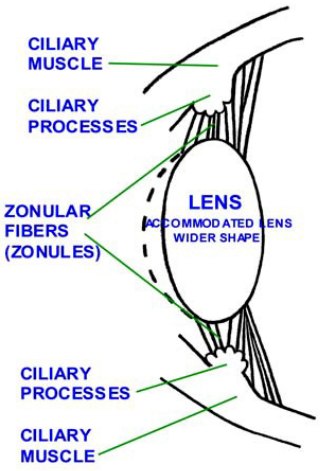
TENSION IN THE RECTI AND/OR OBLIQUE MUSCLES CAUSES CROSSED AND WANDERING EYES.

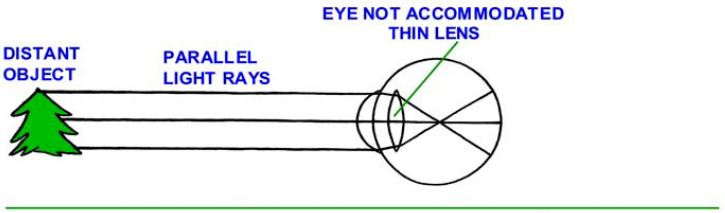
DIAGRAMS ARE ACCENTUATED FOR EASY VIEWING

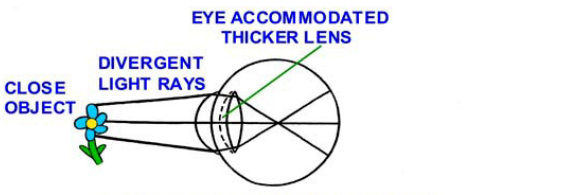
The Bates method of Natural Vision Improvement relaxes the eye muscles, returns the eye and cornea to normal shape with correct focus of light rays in the eye, on the retina with clear close and distant vision. See picture # 1, 2 in the picture above.

OLD THEORY OF ACCOMMODATION;

+MOST EYE DOCTORS STATE THE OLD THEORY OF ACCOMMODATION; THAT THE CILIARY MUSCLE CHANGES THE SHAPE OF THE EYES LENS, MAKES IT THICKER TO PRODUCE ACCOMMODATION AND ENABLE THE EYE TO FOCUS DIVERGENT LIGHT RAYS FROM CLOSE OBJECTS CORRECT ONTO THE RETINA FOR CLEAR CLOSE VISION.
THEY STATE ; ---- THE THEORY IS FACT AND THAT THE EYE DOES NOT CHANGE SHAPE.
+OTHER EYE DOCTORS AND BATES NATURAL EYESIGHT IMPROVEMENT TEACHERS STATE THAT BOTH THE SHAPE OF THE EYE AND LENS CHANGE TO PRODUCE ACCOMMODATION OR,
+THAT ONLY THE EYE CHANGES SHAPE, LENGTHENS.







THE ZONULAR FIBERS, ATTACHED TO THE EYES LENS AND CILIARY MUSCLE/PROCESSES SUSPENDS THE LENS IN CORRECT PLACEMENT. THE ZONULAR FIBERS AND CILIARY MUSCLE CIRCLE AROUND THE LENS. THE OLD THEORY STATES THAT THE CILIARY MUSCLE (ATTACHED TO THE LENS BY THE ZONULAR FIBERS) CONTRACTS TO CHANGE THE SHAPE OF THE LENS (MAKE IT WIDER, THICKER) WHEN LOOKING AT CLOSE OBJECTS TO PRODUCE ACCOMMODATION AND CLEAR CLOSE VISION. SEE DOTTED LINE ON DIAGRAMS.

THE DOTTED LINE SHOWS THAT THE LENS HAS BECOME THICKER, WIDER TO PRODUCE ACCOMMODATION, CORRECT FOCUS OF DIVERGENT LIGHT RAYS ONTO THE RETINA FOR CLEAR CLOSE VISION.

NATURAL EYESIGHT IMPROVEMENT RELAXES AND IMPROVES FUNCTION OF ALL THE EYE MUSCLES; OUTER; OBLIQUE, RECTI... AND INNER; CILIARY, IRIS/PUPIL.... FOR CORRECT EYE, LENS, PUPIL FUNCTION AND CLEAR VISION.

Light rays from distant objects are parallel = and focus perfectly on the retina when the eyes shape is round and looking at distant objects.

Light rays from close objects diverge < causing the placement of light rays in the eye to change resulting in a need for the eyes to accommodate, change shape to produce correct focus of light rays on the retina when looking at close objects. See picture above and #1,2, 3 on the previous page.

Most eye doctors state the old theory that the ciliary muscle attached to the eyes lens causes the lens to change shape to produce accommodation and clear close vision and returns the lens to its original shape, un-accommodation for clear distant vision.
These doctors fight Dr. Bates by stating that the outer eye muscles do not affect the shape of the eye and clarity of vision and that the only treatment for unclear vision and other eye problems is eyeglasses and/or surgery and drugs.

Eye doctors state that the eye can acquire a abnormal lengthened shape that causes unclear distant vision, a abnormal shortened shape that causes unclear close vision and a irregular shape causing astigmatism but they state that they do not know what causes the lengthened and shortened shape and that there is not a cure for this condition so they prescribe eyeglasses or cornea surgery.
This causes more vision impairment.

Dr. Bates Natural Vision Improvement treatments and experiments on the eyes and eye muscles proved that tension in the outer eye muscles (oblique and recti) causes a abnormal lengthened, shortened and uneven eye shape with incorrect focus of light rays in the eye and unclear vision.
Eye muscle tension, abnormal eye shape also causes increased pressure on/in the eye, pressure, tension, pulling, stretching on/in the eye, retina, macula/fovea, lens, iris, cornea, tear gland, optic nerve, capillaries, cells, nerves in the retina, lens...all parts of the eye resulting in; unclear vision, astigmatism, cataracts, glaucoma, detached retina, macula degeneration, conical cornea, vitreous detachment, crossed and wandering eyes and other eye problems.

Dr. Bates proved that relaxation of the outer eye muscles returns the eye, cornea, lens, retina... to normal shape with correct focus of light rays in the eye, on the retina, returns the eye muscles to normal function, the eyes to normal movement: shifting, convergence, divergence, central-fixation.., removes abnormal pressure, tension, pulling, stretching on/in all parts of the eye, retina, macula/fovea, lens, cornea, optic nerve, eye muscle nerves, blood vessels, capillaries, cells, nerves...) resulting in removal of blur, astigmatism, cataracts and other eye problems.

Dr. Bates proved that tension, strain in the mind can cause strain, tension, dysfunction of the eye muscles, eye muscle nerves, optic nerve, retina, impairs function of the visual cortex, left and right brain hemispheres, memory, imagination, all areas, functions of the visual system, brain, eyes, body, and impairs reaction to, absorption and use of light rays entering the eye. This results in unclear vision with or without eye muscle tension and abnormal eye shape.
The mind has a major influence on the visual system and clarity of vision.

The Bates method of Natural Vision Improvement relaxes the mind, eye muscles, all nerves in the body, eyes, retina enabling the mind, eyes, retina to return to normal function with clear vision.
Every Bates Method activity, treatment produces relaxation. Practice of <u>any</u> normal eye function, correct, relaxed vision habits activates relaxation and improves all functions.

Bates teachers state that unclear vision is also functional; incorrect function, use of the eyes causes unclear vision. Unclear vision occurs when the eyes, visual system function incorrect; not moving, 'shifting' correct, not using central-fixation and other normal eye functions, imperfect convergence, accommodation, un-convergence, un-accommodation and when Incorrect Vision Habits occur; staring, squinting, straining.

Vision is clear when the eyes, visual system function correct; mind, eyes relaxed, eyes moving, shifting normally, central-fixation and all Correct, Natural vision Habits (normal, relaxed eye functions) occur, convergence, accommodation, un-convergence, un-accommodation are perfect.
Practicing Natural Vision Improvement, Imitating normal eye function, Correct Vision Habits; relaxation, shifting, central-fixation, switching close, middle, far.., relaxing the neck.., restores normal function to the eyes, visual system and clear vision.

The Bates method, by relaxing and bringing movement to the eyes, neck, body improves blood, oxygen, lymph, nutrient flow to the head, brain, eyes, retina, lens, cornea for healthy eyes and clear vision. The Bates method removes floaters, (floating specks) from the visual field and cures/prevents headaches.

Modern eye doctors state that use of new test instruments on the eye have proved that the eyes lens <u>does change shape</u> when looking from close to far and far to close distances.
Some eye doctors state that both the lens and eye may change shape, functioning together for clear close and distant vision.
A few doctors have theorized that the ciliary muscle might cause the entire lens to move slightly forward and backward (with or without the eye and lens changing shape) to produce accommodation, un-accommodation for clear close and distant vision.
Tension in the outer eye muscles, any outer, inner eye muscle nerves can cause tension in the inner ciliary, iris and other eye muscles.

Tension in the ciliary muscle can impair its function and its supposed ability to change the shape/movement of the lens and can impair the ciliary muscles function of bringing aqueous humor into the posterior chamber of the eye and may interfere with circulation of blood, oxygen, nutrients to/from the lens resulting in unclear vision, cataracts and other conditions.
The Bates method <u>relaxes all the eye muscles including the ciliary muscle</u>, returns the ciliary and lens to normal function resulting in clear vision, removal of cataracts and other abnormal eye conditions.

The Bates method works, keeping the eyes healthy and vision clear no matter which statements are true; the outer eye muscles changing the shape of the eye, the ciliary muscle changing the shape of the lens or both the eye and lens changing shape for clear close and distant vision.

AVOID WEARING EYEGLASSES, CONTACT LENSES AND SUNGLASSES.
AVOID EYE CORNEA SURGERY AND DRUGS FOR THE EYES.

AVOID EYEGLASSES, SURGERY AND DRUGS.
EYEGLASSES, SURGERY AND DRUGS CAUSE AND INCREASE EYE MUSCLE TENSION, MENTAL STRAIN, ABNORMAL EYE SHAPE, UNCLEAR VISION, CATARACTS AND ALL EYE PROBLEMS.

Cornea surgery destroys the corneas natural shape and structure, often results in unclear vision, has caused many cases of blindness, eye injury, a variety of vision impairment.

Cataract surgery, when done to remove part or all of the eyes lens impairs structure, function of the lens resulting in unclear vision and impairs the lens ability to absorb/control the amount of sunlight and UV light entering the eyes.
The cornea also absorbs and controls the amount of sunlight/UV light entering the eyes.
Removing part of the lens, or the entire lens and/or part of the cornea impairs this function and can cause the eye, cornea, lens, retina to experience overexposure to sunlight and UV light.

Many people waiting for their cataracts to grow larger so surgery can be performed have reversed and completely eliminated the cataracts by stopping use of eyeglasses, sunglasses, improving their diet, and by applying Natural Vision Improvement.

Ophthalmologist Bates 'Better Eyesight Magazines' describes many natural cures for cataracts and other eye problems. If vision is unclear after cataract lens surgery, Natural Vision Improvement can help improve the clarity of vision.
Natural Vision Improvement may or may not improve clarity of vision after unsuccessful cornea surgery. See the following pages.

Eyeglasses, contact lenses, eye surgery and drugs always make eye problems worse, cause development of additional eye problems, cause and increase; mental strain, tension, dysfunction of the ciliary muscle and outer eye muscles resulting in increased abnormal eye shape (lengthening or shortening, irregular), increased abnormal pressure on/in the eye, pressure, tension, pulling, stretching on/in the eye, cornea, lens, retina, optic and eye muscle nerves, nerves, cells, capillaries, cones , rods, macula/fovea in the retina and all parts of the eye.
Blood, oxygen, fluid circulation to the retina, lens all parts of the eye is impaired.
All these abnormal conditions cause; unclear close and distant vision, astigmatism, cataracts, macula degeneration, detached retina, glaucoma, conical cornea, impaired convergence/accommodation when looking at close distances and impaired un-convergence (divergence)/un-accommodation when looking at far distances, wandering, crossed eyes and other eye problems, health impairment.

As eyeglasses cause, increase eye muscle tension, abnormal eye shape, causing progressive vision impairment to occur resulting in prescriptions for stronger and stronger eyeglass lenses, development of the eye problems/disease listed above, the eye doctor then sells eye surgery, drugs.

Eye cornea/lens surgery involves removing part of the cornea and often removing part or all of the lens. This does not correct the underlying cause of unclear vision; mental strain, eye muscle tension, abnormal eye shape, pressure, tension... on/in the eye. After the cornea or lens is altered, impaired by surgery, the cornea/lens cannot return to normal shape and function. Eye function and vision is impaired.
If, in the future, after eye surgery, the eye muscles do relax due to natural causes enabling the eye to return to normal shape, vision becomes more impaired because the surgically altered cornea and lens cannot return to normal shape with the eye. Focus of light rays in the eye will be more impaired resulting in increased vision impairment. See pictures on following pages.

The eye can produce clear vision without the lens, but the cornea is essential to clear vision. The cornea refracts 80% of the light rays.

Eye doctors admit that stronger eyeglass lenses for unclear distant vision increases abnormal lengthening of the eye, resulting in tension, stretching, pulling on all areas of the eye including on the retina and the capillaries, tissue, cells, nerves, cones, rods, macula, fovea centralis... in the retina resulting in macula degeneration, detached retina and other conditions.

Strong close vision eyeglass lenses causing eye muscle tension and shortening of the eye also causes this type of eye, retina impairment and other eye conditions.

Most eye doctors will not teach their patients Natural Vision Improvement to eliminate use of eyeglasses and enable the eye muscles to relax, return the eye to normal shape with normal pressure on/in the eye and removal of tension, stretching, pulling on the retina, lens which will result in reversal and prevention of detached retina, macula degeneration, cataracts and other problems.
The eye doctor prefers to prescribe stronger and stronger eyeglass lenses, sunglasses, eye surgery and drugs.
Plain eyeglasses and contact lenses, sunglasses, tinted, colored, UV blocking lenses cause unclear vision, impaired light tolerance, cause unhealthy partial spectrum unbalanced light to enter the eyes and travel to the brain and body, result in stronger prescriptions for eyeglasses and lowered health of eyes, brain and body.

The optical industry and eye doctors place television ads promoting the sale of eyeglasses to children. The advertisements scare parents into believing their children will have learning disabilities and impaired vision if they do not wear eyeglasses.
This is a lie!
Eyeglasses are addictive, cause and increase vision impairment and lead to stronger and stronger eyeglass prescriptions for life and development of other eye problems/disease. Eyeglasses cause strain in the mind; impaired brain function, impairs: left and right brain hemisphere activation, integration and all left and right hemisphere functions; memory, imagination, concentration...math, science, language and other skills. Eyeglasses cause/increase learning disabilities, impair growth, development of the eyes, visual system, brain and body.

The optical industry advertisements are similar to the tobacco company's old advertisements aimed at young people; advertising to children to get them hooked, addicted to eyeglasses results in a customer that returns throughout life, purchasing stronger eyeglasses that leads to eye surgery and/or drugs.
The optical industry practices the same dishonest, harmful method the drug companies use. Drug companies prevent the public from learning about medicine and natural treatments that will permanently cure disease and how to prevent disease/medical problems from occurring.
The drug companies invent drugs that will only control or dull some of the symptoms of diseases, medical problems, but will never cure the diseases, medical problems.
The patient must continue to buy the drug, usually once a month for life.
The drug is purposely made to cause side effects that cause other health problems. The drug company will then sell more drugs with more side effects to treat but never cure the new medical problems.
The same is true of eyeglasses.
Eyeglasses do not cure unclear vision and other eye problems.
Eyeglasses cause and increase vision impairment and other eye problems.

It is normal for the clarity of vision to fluctuate occasionally (clear, less clear, clear) as a child's eyes grow and as the child enters school and may experience stress in a new environment, learning new things and sees, learns to identify new unfamiliar objects; letters, numbers, each new teachers unfamiliar handwriting on the blackboard... Being exposed to activities that activate only one brain hemisphere, (usually the left) in school also impairs the vision by creating a brain hemisphere imbalance.

Let the child sit closer to the blackboard when learning to visually, mentally identify new objects.
Parents must protect their child's vision. Never place eyeglasses on a child. Teach them Natural Vision Improvement (Bates Method). See books by Janet Goodrich chapter 2.
The clarity of vision can fluctuate from clear to less clear and back to clear at any age; child, adult, senior. Unclear vision is always a temporary condition.
The visual system will return vision to 20/20 and clearer when eyeglasses are avoided..

Unclear vision can occur due to tension, strain in the mind, body, eye muscle tension, incorrect posture causing neck muscle tension, Incorrect Vision Habits, staring, squinting, poor diet, state of health... All of these can be corrected without eyeglasses.
When eye muscle tension occurs without use of eyeglasses, the tension is slight, causing vision to be a little unclear. The muscle tension and unclear vision is easily reversed when eyeglasses are avoided.

Eyeglasses prevent vision improvement;
Wearing eyeglasses will lock, maintain and increase the eye muscle tension and other causes of unclear vision into the eyes, brain, visual system, maintain and increase tension in the mind, maintain and increase a abnormal eye shape and incorrect focus of light rays in the eye, and block/slow improvement of eye health, function, prevent the visual system from returning to normal function and prevent a return to clear vision.
Eyeglasses block use of Natural Vision Improvement, Correct Vision Habits. Eyeglasses block activation and integration of the left and right brain hemispheres and relaxation of mind, body, eyes.

Eyeglasses block use of all Correct Vision Habits; shifting, central-fixation, relaxation, movement, ability to remember and imagine objects perfectly clear, good posture, relaxed deep breathing... Eyeglasses do not provide a perfect size, shape... image of objects. Far objects appear smaller and close objects appear larger than normal size through eyeglass lenses. This confuses, strains the mind, eye muscles, retina, eyes.
Eyeglasses cause use of Incorrect Vision Habits; staring, strain, reduced eye movement, cause incorrect posture, neck muscle tension, immobility, headaches (all major causes of blur). Eyeglasses impair and weaken natural convergence, accommodation and un-convergence, un-accommodation.

The eyes can reveal health problems. Lowered health, malnutrition, eye, head, neck, body injury... affects the clarity of vision and health of the eyes. Routine eye exams by an Optometrist, Ophthalmologist that teaches Natural Vision Improvement and avoidance of eyeglasses keeps the eyes and body healthy. See the disclaimer in the Introduction for Iridology.

There are Optometrists, ophthalmologists that teach their patients the Bates method of Natural Vision Improvement. If eyeglasses are necessary for driving and other tasks requiring safety while vision is improving, the eye doctor will prescribe reduced, weaker eyeglass lenses; 20/40. The patient wears the glasses only when necessary, as little as possible and uses relaxed, Correct Vision Habits, shifting, central-fixation... when wearing the glasses and when not wearing glasses. Other Natural Vision Improvement activities are practiced without glasses. Each time the clarity of vision improves the eye doctor prescribes a weaker pair of lenses until the vision is clear enough to permanently stop wearing glasses.

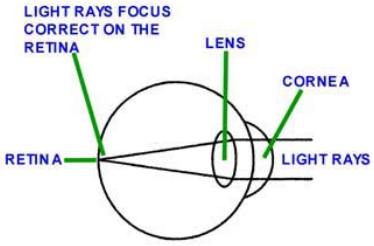
Weak lenses do not block vision improvement as much as strong lenses.
Vision improves much easier and faster when eyeglasses are completely avoided.

20/40 reduced distant vision eyeglass lenses are used for distant vision.
20/40 reduced lenses for distant vision are an incorrect prescription for close distances and will cause more vision impairment if used when looking at close distances.
A specific type of 20/40 reduced close vision lenses are used for close vision and reading distance.
20/40 reduced lenses for close vision are an incorrect prescription for distant vision and will cause more vision impairment if used for far distances.
Do not wear close lenses when looking to the distance.
Do not wear distant lenses when looking at close distances.
Specific type and strength of lenses are prescribed for close and far distances so be sure to check with your Optometrist for a correct prescription, separate pair of glasses for each distance.
Get plain lenses only. Avoid bifocals, half lenses, astigmatism lenses, tinted, colored and dark UV blocking lenses.
More reduced, weaker close and far distance lenses (20/50,) can be used when not driving or performing activities requiring safety. (Not too weak or the lenses will not provide enough clarity for comfort and strain can occur.) Weaker lenses allow for more relaxation of mind, body, eye muscles, eyes and easier, faster vision improvement. See complete directions in chapter 4.
If vision is clear at one distance, eyeglasses are not needed at that clear distance.

See list Natural Vision Improvement websites chapter 2 for contact information; eye doctors that teach the Bates method of Natural Vision Improvement and prescribe reduced, weaker eyeglass lenses. Many eye doctors are monitoring and keeping records of their patients eye/vision improvement as Natural Vision Improvement is practiced.

CLEAR DISTANT VISION

1

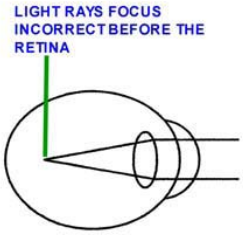


NORMAL HEALTHY ROUND EYE SHAPE.
CLEAR DISTANT VISION.
THE EYE LENGTHENS SLIGHTLY TO PRODUCE ACCOMMODATION AND CLEAR CLOSE VISION AND RETURNS TO A ROUND SHAPE FOR CLEAR DISTANT VISION.
THE LENS IS ALSO IN NORMAL SHAPE, CILIARY MUSCLE ATTACHED TO LENS FUNCTIONING CORRECT.
IF THE LENS ALSO CHANGES SHAPE TO PRODUCE ACCOMMODATION,
UNACCOMMODATION AS THE OLD THEORY STATES, THE LENS WILL FUNCTION CORRECT PRODUCING CLEAR VISION WHEN THE EYE IS IN NORMAL HEALTHY SHAPE.
THE CILIARY MUSCLE WILL ALSO PRODUCE ITS OTHER FUNCTIONS KEEPING THE EYE HEALTHY.

THE BATES METHOD OF NATURAL EYESIGHT IMPROVEMENT RELAXES THE EYE MUSCLES , KEEPS THE EYE IN NORMAL HEALTHY SHAPE AND FUNCTION WITH CORRECT FOCUS OF LIGHT RAYS ON THE RETINA AND CLEAR VISION AT ALL DISTANCES WITHOUT USE OF EYEGLASSES.

UNCLEAR DISTANT VISION

2



ABNORMAL LENGTHENED EYE SHAPE DUE TO TENSE OUTER EYE MUSCLES.
DISTANT VISION UNCLEAR.
CLOSE VISION CAN ALSO BECOME UNCLEAR IF THE EYE LENGTHENS TOO MUCH AS IS SHOWN IN THE DIAGRAM.

TENSE OUTER EYE MUSCLES PULLING THE EYE INTO A ABNORMAL SHORTENED SHAPE RESULTING IN UNCLEAR CLOSE VISION ALSO CAUSES UNCLEAR DISTANT VISION IF THE EYE BECOMES TOO SHORT.

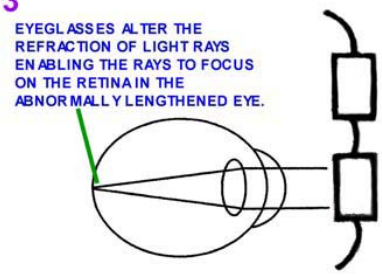
EYE GLASSES CAUSE, MAINTAIN AND INCREASE EYE MUSCLE TENSION, ABNORMAL LENGTHENING, SHORTENING OF THE EYE AND A IRREGULAR EYE SHAPE THAT CAUSES ASTIGMATISM.
ALL THESE CONDITIONS CAUSE THE EYE PROBLEMS LISTED FOR DIAGRAM # 3.

NATURAL EYESIGHT IMPROVEMENT REVERSES PROGRESSIVE EYE MUSCLE TENSION, MALFUNCTION AND ABNORMAL LENGTHENING, SHORTENING, AND IRREGULAR SHAPE OF THE EYE CAUSED BY EYEGLASS LENSES.

WHEN THE EYE RETURNS TO NORMAL SHAPE; EYE PRESSURE RETURNS TO NORMAL, STRESS, TENSION, PULLING, STRETCHING ON/IN THE EYE, CORNEA, LENS, RETINA, NERVES, BLOOD VESSELS, ALL PARTS OF THE EYE IS REMOVED.
CIRCULATION IN THE EYE RETURNS TO NORMAL.
THE EYE REMAINS HEALTHY.
THE EYE PROBLEMS LISTED FOR DIAGRAMS # 2 AND 3 ARE REVERSED AND PREVENTED.

CLEARER DISTANT VISION WITH USE OF EYEGLASSES

3

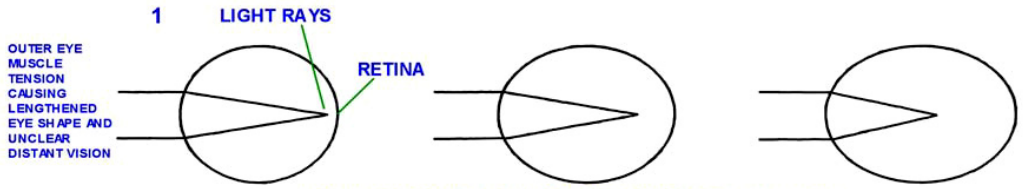


DISTANT VISION IS CLEARER WHEN WEARING EYEGLASSES BUT THE EYE REMAINS IN ABNORMAL LENGTHENED SHAPE.
EYEGLASSES DO NOT REMOVE EYE MUSCLE TENSION AND ABNORMAL EYE SHAPE.
EYEGLASSES CAUSE, MAINTAIN AND INCREASE EYE MUSCLE TENSION, ABNORMAL EYE SHAPE, RESULTING IN STRONGER AND STRONGER EYEGLASS LENSES BEING PRESCRIBED IN ORDER TO FOCUS LIGHT RAYS ON THE RETINA IN THE PROGRESSIVELY LENGTHENED EYE.

STRONGER LENSES CAUSE MORE EYE MUSCLE TENSION, INCREASED LENGTHENING OF THE EYE, INCREASED VISION IMPAIRMENT; BLUR, ASTIGMATISM AT CLOSE AND FAR DISTANCES, ABNORMAL INCREASED PRESSURE ON/IN THE EYE, CONSTANT PRESSURE, STRESS, TENSION, PULLING, STRETCHING ON/IN THE EYE, CORNEA, LENS, VITREOUS, RETINA, OPTIC AND EYE MUSCLE NERVES, BLOOD VESSELS, CAPILLARIES, CELLS IN THE EYE, LENS, RETINA BLOOD, OXYGEN, NUTRIENT, LYMPH, FLUID, ENERGY FLOW AND NERVE SIGNALS/FUNCTION TO/FROM, IN THE EYE, LENS, RETINA...ARE IMPAIRED.
EYE MUSCLE, LENS, RETINA, IRIS... HEALTH, FUNCTION ARE IMPAIRED RESULTING IN; UNCLEAR VISION AT ALL DISTANCES, ASTIGMATISM, CATARACTS, DETACHED RETINA, MACULA DEGENERATION, GLAUCOMA, CONICAL CORNEA AND ULCERS, WEAKENED SCLERAL TUNIC, VITREOUS DETACHMENT, UNBALANCED VISION IN THE LEFT AND RIGHT EYES, CROSSED/WANDERING EYES, FLOATERS, VISUAL DISTURBANCES AND OTHER EYE PROBLEMS.
CENTRAL AND PERIPHERAL VISION, COLOR, DEPTH, DISTANCE PERCEPTION, THREE DIMENSIONAL VISION, BALANCE, COORDINATION, LEFT AND RIGHT BRAIN HEMISPHERE ACTIVATION AND INTEGRATION, MEMORY AND IMAGINATION, SHIFTING/EYE MOVEMENT, CENTRAL FIXATION, CORRECT VISION HABITS AND OTHER EYE/BRAIN FUNCTIONS ARE IMPAIRED.

EYEGLASSES ARE ADDICTIVE.
STRONGER AND STRONGER EYEGLASS LENSES MAINTAIN, CAUSE AND INCREASE OUTER (OBLIQUE, RECTI...) AND INNER (CILIARY, IRIS) EYE MUSCLE TENSION, ABNORMAL EYE SHAPE AND PROGRESSIVE VISION IMPAIRMENT.
THE DIAGRAM BELOW SHOWS THE NEARSIGHTED EYE (UNCLEAR DISTANT VISION).
A SERIES OF STRONGER EYE GLASS LENSES ARE PRESCRIBED WHICH CAUSES INCREASED EYE MUSCLE TENSION, INCREASED ABNORMAL LENGTHENING OF THE EYE AND PROGRESSIVE VISION IMPAIRMENT; INCREASED PRESSURE, TENSION, PULLING, STRETCHING ON/IN THE EYE, CORNEA, LENS, RETINA, OPTIC AND EYE MUSCLE NERVES, BLOOD VESSELS, CAPILLARIES, CELLS IN THE RETINA, ALL PARTS OF THE EYE RESULTING IN IMPAIRED BLOOD, OXYGEN, NUTRIENT, LYMPH, NERVE, ENERGY FLOW IN THE EYES, CORNEA, LENS, RETINA, EYE MUSCLES... INCREASED BLUR, DEVELOPMENT OF ASTIGMATISM, CATARACTS, DETACHED RETINA, MACULA DEGENERATION, GLAUCOMA AND OTHER EYE PROBLEMS.
ABNORMAL EYE SHAPE, PRESSURE, TENSION CAN IMPAIR THE SHAPE HEALTH OF THE EYE, CORNEA, LENS, RETINA, IRIS, ALL PARTS OF THE EYE.
WHEN EYE MUSCLE TENSION ABNORMALLY LENGTHENS THE EYE, THE LIGHT RAYS DO NOT FOCUS CORRECT ON THE RETINA.
THE LIGHT RAYS FOCUS INCORRECT BEFORE THE RETINA RESULTING IN UNCLEAR VISION. SEE DIAGRAM 1 TOP LEFT.
WHEN EYEGLASSES ARE WORN, THE EYE MUSCLE TENSION IS MAINTAINED, INCREASED CAUSING INCREASED LENGTHENING OF THE EYE.
THE LIGHT RAYS FOCUS FARTHER AWAY FROM THE RETINA RESULTING IN INCREASED BLUR AND PRESCRIPTIONS FOR STRONGER EYEGLASS LENSES.

NEARSIGHTED - UNCLEAR DISTANT VISION

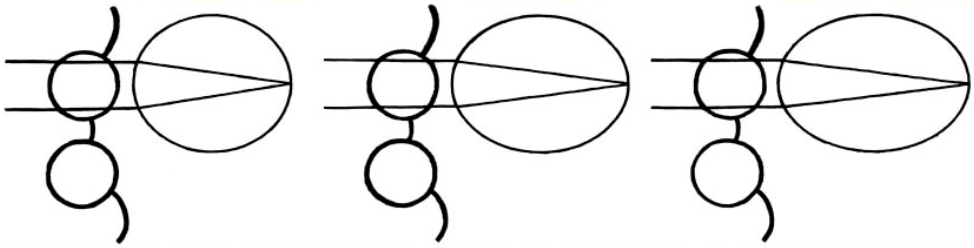


LIGHT RAYS FOCUS INCORRECT BEFORE THE RETINA

FIRST EYEGLASS PRESCRIPTION

STRONGER LENSES PRESCRIBED

MUCH STRONGER LENSES PRESCRIBED



STRONGER AND STRONGER EYEGLASS LENSES ARE NEEDED TO BRING THE FOCUS OF LIGHT RAYS ONTO THE RETINA.

EYE MUSCLE TENSION, ABNORMAL LENGTHENING OF THE EYE, UNCLEAR VISION MAINTAINED AND INCREASED BY THE EYEGLASSES.

EYE MUSCLE TENSION, ABNORMAL LENGTHENING OF THE EYE, UNCLEAR VISION MAINTAINED AND INCREASED MORE BY STRONGER EYEGLASS LENSES.

EYE MUSCLE TENSION, ABNORMAL LENGTHENING OF THE EYE, UNCLEAR DISTANT AND CLOSE VISION MAINTAINED AND PROGRESSIVELY INCREASED BY STRONGER AND STRONGER EYEGLASS LENSES. CATARACTS, DETACHED RETINA, GLAUCOMA, MACULA DEGENERATION AND OTHER EYE PROBLEMS DEVELOP.

NATURAL EYESIGHT IMPROVEMENT RELAXES THE EYE MUSCLES AND RETURNS THE EYE, CORNEA, LENS, RETINA, OPTIC NERVE, ALL AREAS OF THE EYE TO NORMAL SHAPE, FUNCTION, NORMAL BLOOD, OXYGEN, NUTRIENT, LYMPH, ENERGY, NERVE FLOW IN THE EYES, RETINA, LENS... PERFECT EYE HEALTH, CORRECT FOCUS OF LIGHT RAYS ON THE RETINA, CLEAR VISION AT ALL DISTANCES. ASTIGMATISM, CATARACTS, DETACHED RETINA AND OTHER EYE PROBLEMS ARE REVERSED/PREVENTED.

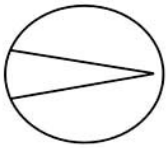
OPHTHALMOLOGIST BATES TAUGHT THAT STRAIN, STRESS IN THE MIND, BODY, NEGATIVE EMOTIONS; WORRY, FEAR, GRIEF, ANGER...CAUSE EYE MUSCLE TENSION, LOWERED BRAIN, RETINA FUNCTION, INCORRECT FOCUS OF LIGHT RAYS IN THE EYE AND UNCLEAR VISION.
RELAXATION OF THE MIND, BODY, POSITIVE EMOTIONS RELAX THE EYE MUSCLES, RETURN THE BRAIN, RETINA TO NORMAL FUNCTION WITH CLEAR VISION.

ABNORMAL EYE SHAPE IS ACCENTUATED FOR EASY VIEWING

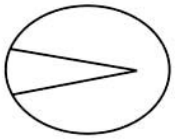
DISTANT VISION IMPAIRMENT

IT IS EMPHASIZED THAT ALL EYEGLASSES, EVEN WEAKER LENSES BLOCK VISION IMPROVEMENT.
REDUCED , WEAKER 20/40 EYEGLASS LENSE PRESCRIPTIONS PRODUCE LESS EYE MUSCLE TENSION, MENTAL AND VISUAL STRAIN THAN 20/20 AND STRONGER LENSES.
REDUCED 20/40 LENSES WILL NOT BLOCK VISION IMPROVEMENT AS MUCH AS 20/20 AND STRONGER LENSES.
IF EYEGLASSES ARE NEEDED FOR SAFETY WHEN DRIVING, OPERATING MACHINERY AND OTHER TASKS THAT REQUIRE SAFETY, THEN 20/40 REDUCED EYEGLASSES CAN BE WORN.
WEAR THEM ONLY WHEN NECESSARY.
DO NOT BECOME DEPENDANT ON THEM.
THEY WILL PREVENT COMPLETE NORMAL FUNCTION OF THE VISUAL SYSTEM, EYE MUSCLES, EYES, VISION IMPROVEMENT BUT NOT AS MUCH AS STRONG LENSES.
AVOID GLASSES COMPLETELY IF SAFETY IS NOT REQUIRED.
IN THE DIAGRAM ON THE RIGHT STRONGER AND STRONGER EYEGLASS LENSES ARE PRESCRIBED TO FOCUS LIGHT RAYS ONTO THE RETINA TO PROVIDE 20/20 AND CLEARER VISION THROUGH THE EYEGLASSES AS THE EYE AND VISION ARE PROGRESSIVELY IMPAIRED BY STRONGER EYEGLASS LENSES.
THE EYEGLASSES CAUSE/INCREASE EYE MUSCLE TENSION CAUSING THE EYE TO BE PROGRESSIVELY LENGTHENED, A ABNORMAL CONDITION THAT CAUSES THE LIGHT RAYS TO FOCUS INCORRECT BEFORE THE RETINA.
STRONGER THAN 20/20 LENSES PRODUCE CLEARER THAN 20/20 VISION THROUGH THE EYEGLASS LENSES AND PRODUCE MORE VISION IMPAIRMENT.
20/20 LENSES ARE ALSO TOO STRONG.
20/20 AND STRONGER LENSES (20/15, 10) CAUSE, MAINTAIN AND INCREASE EYE MUSCLE TENSION, IMPAIRMENT OF THE EYES SHAPE, HEALTH AND CLARITY OF VISION.
PRESSURE, TENSION, PULLING OCCUR ON/IN THE EYE, CORNEA, LENS, RETINA, OPTIC AND OTHER NERVES, BLOOD VESSELS, CAPILLARIES, CELLS IMPAIRING BLOOD, LYMPH, EYE FLUID, NERVE FLOW, SIGNALS, WASTE REMOVAL AND OTHER EYE FUNCTIONS.
BLUR AT ALL DISTANCES, ASTIGMATISM, CATARACTS, DETACHED RETINA, MACULA DEGENERATION, GLAUCOMA AND OTHER EYE PROBLEMS DEVELOP.

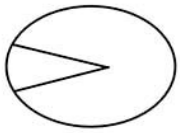
DISTANT VISION IMPAIRMENT CAUSED BY STRONGER EYEGLASS LENSES.
LIGHT RAYS FOCUS INCORRECT, FARTHER AND FARTHER AWAY FROM THE RETINA.



LITTLE EYE MUSCLE TENSION, LITTLE LENGTHENING OF THE EYE , SMALL AMOUNT OF DISTANT BLUR.



INCREASED EYE MUSCLE TENSION AND LENGTHENING OF THE EYE . DISTANT VISION MORE UNCLEAR.



EXTREME EYE MUSCLE TENSION, EYE PROGRESSIVELY LENGTHENED, DISTANT AND CLOSE VISION VERY UNCLEAR, OTHER EYE PROBLEMS.

1ST PAIR OF EYEGLASSES, 20/20 AND STRONGER LENSES

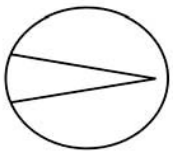
2ND PAIR OF EYEGLASSES, STRONGER LENSES

3RD PAIR OF EYEGLASSES, VERY STRONG LENSES

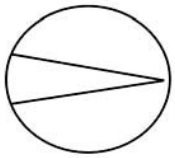
THE BATES METHOD, NATURAL EYESIGHT IMPROVEMENT RELAXES THE EYE MUSCLES, RETURNS THE EYE TO NORMAL HEALTHY SHAPE WITH CORRECT FOCUS OF LIGHT RAYS ONTO THE RETINA PRODUCING CLEAR VISION WITHOUT USE OF EYEGLASSES.
EYE PRESSURE RETURNS TO NORMAL.
TENSION, PULLING, STRETCHING ON/IN THE EYE, CORNEA, LENS, RETINA, NERVES, BLOOD VESSELS, ALL PARTS OF THE EYE IS REMOVED.
CIRCULATION IN THE EYE, NERVE SIGNALS RETURN TO NORMAL.
BLUR, ASTIGMATISM, CATARACTS, DETACHED RETINA, MACULA DEGENERATION, GLAUCOMA AND OTHER EYE PROBLEMS ARE REVERSED, PREVENTED.
WANDERING AND CROSSED EYE CONDITIONS CAN ALSO BE CORRECTED.
IN THE DIAGRAM ON THE RIGHT WEAKER AND WEAKER REDUCED 20/40 EYEGLASS LENSES ARE PRESCRIBED UNTIL EYEGLASSES ARE NOT NEEDED, USUALLY WHEN THE VISION REACHES THE 20/40 LEVEL OF CLARITY WITHOUT EYEGLASSES WHICH IS REQUIRED FOR DRIVING IN MOST STATES.
REDUCED MUCH WEAKER LENSES PROVIDING 20/60, 80... VISION CAN BE USED IF SAFETY IS NOT REQUIRED.
THE WEAKER THE LENSES THE LESS TENSION STRAIN IS PRODUCED AND THE MORE VISION CAN IMPROVE.
IN THIS EXAMPLE OF 20/40 REDUCED LENSES; EACH TIME THE CLARITY OF VISION IMPROVES TO THE LEVEL THAT THE EYEGLASSES BECOME TOO STRONG (PRODUCING 20/25, 20/20 VISION THROUGH THE LENSES) A NEW PAIR OF REDUCED, WEAKER PAIR OF EYEGLASS LENSES PROVIDING 20/40 VISION THROUGH THE LENSES IS PRESCRIBED.

OFTEN EYEGLASSES ARE OMITTED WHEN THE VISION IS AT 20/80, 20/60 BUT THE SOONER THE GLASSES ARE DISCONTINUED, THE FASTER AND EASIER VISION IMPROVES.
EYEGLASSES CAN BE DISCONTINUED AT ANY TIME EVEN IF THE VISION IS SO UNCLEAR (20/300...) THAT THE PERSON NEEDS A GUIDE DOG TO WALK OUT OF THE HOUSE.
CORRECT VISION HABITS; SHIFTING, CENTRAL FIXATION, RELAXED MIND, EYES, BODY, NECK ARE USED WHEN WEARING GLASSES AND WHEN NOT WEARING THE GLASSES.

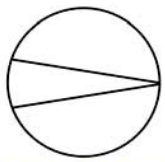
DISTANT VISION IMPROVEMENT WITH APPLICATION OF NATURAL EYESIGHT IMPROVEMENT (AND WEAKER EYEGLASS LENSES IF NEEDED FOR DRIVING, SAFETY).
LIGHT RAYS FOCUS CLOSER AND CLOSER TO AND THEN CORRECT ONTO THE RETINA.



LITTLE EYE MUSCLE TENSION, LITTLE LENGTHENING OF THE EYE, SMALL AMOUNT OF DISTANT BLUR.



LESS EYE MUSCLE TENSION, LESS EYE LENGTHENING, DISTANT VISION CLEARER.



EYE MUSCLES RELAXED, EYE HAS RETURNED TO NORMAL ROUND SHAPE, LIGHT RAYS FOCUS ON THE RETINA.
DISTANT VISION IS CLEAR.
THE EYE LENGTHENS SLIGHTLY TO ACCOMMODATE FOR CLEAR CLOSE VISION.
OTHER EYE PROBLEMS REVERSED, PREVENTED.

20/20 AND STRONGER EYEGLASS LENSES ARE AVOIDED AND REPLACED WITH 20/40 REDUCED, WEAKER LENSES.
NATURAL EYESIGHT IMPROVEMENT IS PRACTICED AND THE EYEGLASSES ARE WORN AS LITTLE AS POSSIBLE.

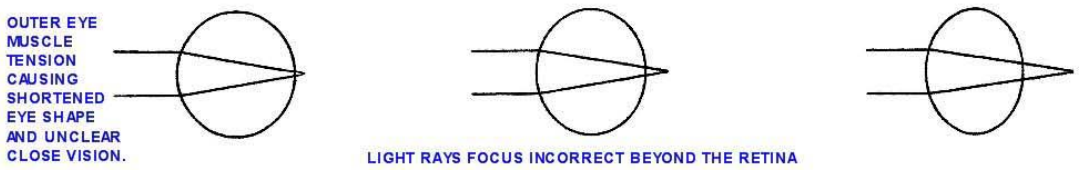
THE CLARITY OF VISION HAS IMPROVED.
A WEAKER, MORE REDUCED PAIR OF LENSES PROVIDING 20/40 VISION ARE PRESCRIBED.
WEAKER AND WEAKER 20/40 LENSES ARE PRESCRIBED UNTIL VISION IS CLEAR ENOUGH TO GO WITHOUT EYEGLASSES.

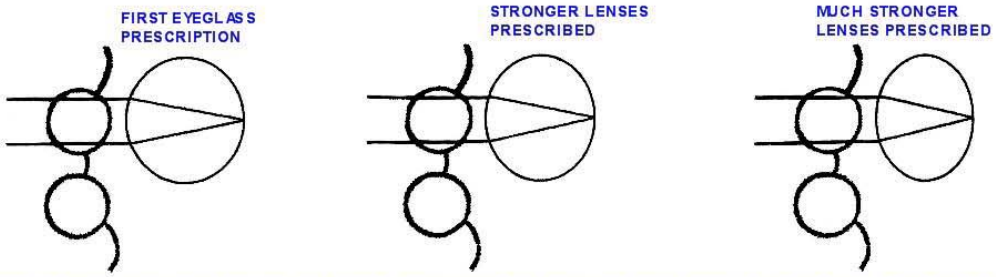
EYEGLASSES NOT NEEDED.
VISION IS 20/20 AND CLEARER; 20/15, 10, 5 WITHOUT EYEGLASSES.

IMPROVING THE CLARITY OF DISTANT VISION AUTOMATICALLY IMPROVES CLARITY OF CLOSE VISION.
LIGHT RAYS IN THESE DIAGRAMS ARE SHOWN IN A SIMPLE FORM AS IN MANY OPTOMETRY TEXTS.

UNCLEAR CLOSE VISION IS CAUSED BY TENSE OUTER EYE MUSCLES (RECTI) PULLING THE EYE INTO A SHORTENED SHAPE CAUSING LIGHT RAYS TO FOCUS INCORRECT BEYOND THE RETINA.
EYEGLASSES FOR CLOSE VISION MAINTAIN, CAUSE AND INCREASE EYE MUSCLE TENSION AND SHORTENING OF THE EYE. THIS RESULTS IN STRONGER AND STRONGER EYEGLASS LENSE PRESCRIPTIONS, INCREASED EYE MUSCLE TENSION, SHORTENING OF THE EYE, INCREASED PRESSURE, TENSION, PULLING, STRETCHING ON/IN THE EYE, RETINA, LENS, CORNEA, OPTIC AND OTHER NERVES, BLOOD VESSELS, CAPILLARIES, CELLS, ALL PARTS OF THE EYE RESULTING IN INCREASED BLUR AT ALL DISTANCES, ASTIGMATISM AND DEVELOPMENT OF THE SAME EYE PROBLEMS LISTED ON THE PREVIOUS PAGE FOR A LENGTHENED EYE.
CLOSE VISION EYEGLASSES CAUSE FAST VISION IMPAIRMENT. CATARACTS AND DISTANT BLUR OFTEN OCCUR SOON AFTER WEARING CLOSE VISION EYEGLASSES.

FARSIGHTED - UNCLEAR CLOSE VISION





STRONGER AND STRONGER EYEGLASS LENSES ARE NEEDED TO BRING THE FOCUS OF LIGHT RAYS ONTO THE RETINA.

EYE MUSCLE TENSION, SHORTENING OF THE EYE, UNCLEAR CLOSE VISION MAINTAINED AND INCREASED BY EYEGLASSES.

EYE MUSCLE TENSION, SHORTENING OF THE EYE, UNCLEAR CLOSE VISION MAINTAINED AND INCREASED MORE BY STRONGER EYEGLASS LENSES.

EYE MUSCLE TENSION, SHORTENING OF THE EYE, UNCLEAR CLOSE AND DISTANT VISION MAINTAINED, AND PROGRESSIVELY INCREASED BY STRONGER AND STRONGER EYEGLASS LENSES. CATARACTS, DETACHED RETINA, GLAUCOMA, MACULA DEGENERATION AND OTHER EYE PROBLEMS DEVELOP.

NATURAL EYESIGHT IMPROVEMENT RELAXES ALL THE EYE MUSCLES; OUTER; OBLIQUE, RECTI, INNER; CILIARY, IRIS, RETURNS THE EYE TO NORMAL HEALTHY SHAPE; WITH CORRECT FOCUS OF LIGHT RAYS ON THE RETINA, HEALTHY EYES, NORMAL BLOOD, NERVE... FLOW AND CLEAR CLOSE AND DISTANT VISION. THE EYE REMAINS ROUND FOR CLEAR DISTANT VISION AND LENGTHENS SLIGHTLY TO PRODUCE ACCOMMODATION FOR CLEAR CLOSE VISION.

TENSE RECTI MUSCLES CAN CAUSE TENSE OBLIQUE MUSCLES. TENSE OBLIQUE CAN CAUSE TENSE RECTI. TENSION IN THE OBLIQUE AND RECTI OUTER EYE MUSCLES CAUSE UNCLEAR CLOSE AND DISTANT VISION. WHEN STRONG EYEGLASS LENSES CAUSE EYE MUSCLE TENSION AND A EXTREMELY LENGTHENED OR SHORTENED EYE SHAPE, LIGHT RAYS FROM CLOSE AND DISTANT OBJECTS CANNOT FOCUS ON THE RETINA. THIS RESULTS IN UNCLEAR CLOSE AND DISTANT VISION.

TENSION IN THE OUTER EYE MUSCLES CAUSING ABNORMAL EYE SHAPE, PRESSURE, TENSION ON/IN THE EYE CAN CAUSE TENSION IN THE CILIARY MUSCLE AND IMPAIRED BLOOD, NERVE FLOW IN THE EYE, LENS, RETINA WHICH CAN IMPAIR FUNCTION/ HEALTH OF THE EYES LENS, RETINA...RESULTING IN UNCLEAR VISION, CATARACTS AND OTHER EYE PROBLEMS..

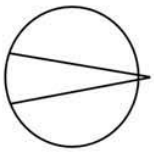
If eyeglasses are necessary for driving and other activities while Natural Vision Improvement is applied; reduced, weaker 20/40 lenses can be used. Weaker lenses cause less eye muscle tension and enable the eye muscles and eye to begin to relax, return to normal shape. No Eyeglasses is best.

CLOSE VISION IMPAIRMENT

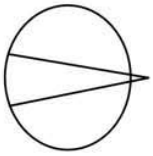
IN THE DIAGRAM ON THE RIGHT STRONGER AND STRONGER CLOSE VISION EYEGLASS LENSES ARE PRESCRIBED TO FOCUS LIGHT RAYS ONTO THE RETINA TO PROVIDE 20/20 AND CLEARER VISION THROUGH THE EYEGLASS LENSES AS THE EYE AND VISION ARE PROGRESSIVELY IMPAIRED BY THE STRONGER EYEGLASS LENSES.
THE EYEGLASSES CAUSE/INCREASE EYE MUSCLE TENSION CAUSING THE EYE TO BE PROGRESSIVELY SHORTENED, A ABNORMAL CONDITION THAT CAUSES THE LIGHT RAYS TO FOCUS INCORRECT BEYOND THE RETINA.
CLOSE VISION LENSES (INCLUDING BIFOCALS) CAUSE, INCREASE FAST VISION IMPAIRMENT, EXTREME EYE MUSCLE TENSION, DYSFUNCTION AND ARE A MAJOR CAUSE OF CATARACTS, ASTIGMATISM, CLOSE AND DISTANT BLUR AND OTHER EYE PROBLEMS.
STRONGER THAN 20/20 LENSES PRODUCE CLEARER THAN 20/20 VISION THROUGH THE EYEGLASS LENSES AND PRODUCE MORE VISION IMPAIRMENT.
20/20 LENSES ARE ALSO TOO STRONG.
20/20 AND STRONGER LENSES (20/15, 10) CAUSE, MAINTAIN AND INCREASE EYE MUSCLE TENSION, IMPAIRMENT OF THE EYES SHAPE, HEALTH AND CLARITY OF VISION.
PRESSURE, TENSION, PULLING OCCUR ON/IN THE EYE, CORNEA, LENS, RETINA, OPTIC AND OTHER NERVES, BLOOD VESSELS, CAPILLARIES, CELLS IMPAIRING BLOOD, LYMPH, EYE FLUID, NERVE FLOW, SIGNALS, WASTE REMOVAL AND OTHER EYE FUNCTIONS.
BLUR AT ALL DISTANCES, ASTIGMATISM, CATARACTS, DETACHED RETINA, MACULA DEGENERATION, GLAUCOMA AND OTHER EYE PROBLEMS DEVELOP.

AVOID WEARING CLOSE AND DISTANT VISION EYEGLASSES AND THESE EYE PROBLEMS WILL REVERSE AND BE PREVENTED.
APPLY NATURAL EYESIGHT IMPROVEMENT.
IF GLASSES ARE NEEDED FOR SAFETY WEAR ONLY REDUCED 20/40 OR WEAKER LENSES AND WEAR THEM AS LITTLE AS POSSIBLE AND DISCONTINUE USE OF EYEGLASSES WHEN VISION IS CLEAR ENOUGH.

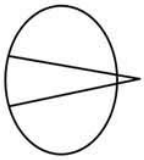
CLOSE VISION IMPAIRMENT CAUSED BY STRONGER EYEGLASS LENSES.
LIGHT RAYS FOCUS INCORRECT, FARTHER AND FARTHER BEYOND THE RETINA.



LITTLE EYE MUSCLE TENSION, LITTLE SHORTENING OF THE EYE, SMALL AMOUNT OF CLOSE BLUR.



INCREASED EYE MUSCLE TENSION AND SHORTENING OF THE EYE.
CLOSE VISION MORE UNCLEAR.



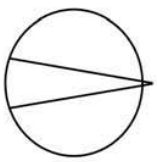
EXTREME EYE MUSCLE TENSION, EYE PROGRESSIVELY SHORTENED, CLOSE AND DISTANT VISION VERY UNCLEAR, OTHER EYE PROBLEMS.

1ST PAIR OF EYEGLASSES, 20/20 AND STRONGER LENSES

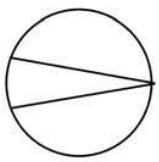
2ND PAIR OF EYEGLASSES, STRONGER LENSES

3RD PAIR OF EYEGLASSES, VERY STRONG LENSES

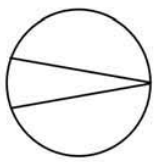
CLOSE VISION IMPROVEMENT WITH APPLICATION OF NATURAL EYESIGHT IMPROVEMENT (AND WEAKER EYEGLASS LENSES IF NEEDED FOR DRIVING, READING MEDICINE BOTTLES, SAFETY).
LIGHT RAYS FOCUS CLOSER AND CLOSER TO AND THEN CORRECT ONTO THE RETINA.



LITTLE EYE MUSCLE TENSION, LITTLE SHORTENING OF THE EYE, SMALL AMOUNT OF CLOSE BLUR.



LESS EYE MUSCLE TENSION, LESS EYE SHORTENING, CLOSE VISION CLEARER.



EYE MUSCLES RELAXED, EYE HAS RETURNED TO NORMAL ROUND SHAPE, LIGHT RAYS FOCUS ON THE RETINA.
DISTANT VISION IS CLEAR.
THE EYE LENGTHENS SLIGHTLY TO ACCOMMODATE FOR CLEAR CLOSE VISION.
OTHER EYE PROBLEMS REVERSED, PREVENTED.

20/20 AND STRONGER EYEGLASS LENSES ARE AVOIDED AND REPLACED WITH 20/40 REDUCED, WEAKER CLOSE VISION LENSES.
NATURAL EYESIGHT IMPROVEMENT IS PRACTICED AND THE EYEGLASSES ARE WORN AS LITTLE AS POSSIBLE.

THE CLARITY OF VISION HAS IMPROVED.
A WEAKER, MORE REDUCED PAIR OF LENSES PROVIDING 20/40 VISION ARE PRESCRIBED.
WEAKER AND WEAKER 20/40 LENSES ARE PRESCRIBED UNTIL VISION IS CLEAR ENOUGH TO GO WITHOUT EYEGLASSES.

EYEGLASSES NOT NEEDED.
VISION IS 20/20 AND CLEARER; 20/15, 10, 5 WITHOUT EYEGLASSES.

IN THE DIAGRAM ON THE RIGHT WEAKER AND WEAKER REDUCED 20/40 CLOSE VISION EYEGLASS LENSES ARE PRESCRIBED UNTIL EYEGLASSES ARE NOT NEEDED.
THE SAME PROCEDURE USED FOR WEAKER REDUCED DISTANT LENSES IS APPLIED FOR USING REDUCED 20/40 CLOSE VISION GLASSES.
BE SURE THE LENSES ARE PRESCRIBED FOR CLOSE VISION.
20/40 LENSES FOR DISTANT VISION CONTAIN A DIFFERENT PRESCRIPTION AND CANNOT BE USED FOR CLOSE DISTANCES.
USE 20/40 LENSES PRESCRIBED FOR CLOSE VISION ONLY WHEN IMPROVING CLOSE VISION.
LOOKING THROUGH CLOSE LENSES TO SEE DISTANT OBJECTS AND LOOKING THROUGH DISTANT LENSES TO SEE CLOSE OBJECTS CAUSES STRAIN, TENSION IN THE MIND, EYE MUSCLES AND INCREASED BLUR AT ALL DISTANCES.
WHEN DRIVING; DO NOT LOOK TO THE DISTANCE WITH CLOSE LENSES ON AND AVOID LOOKING CLOSE (DASHBOARD..) THROUGH DISTANT LENSES.
KEEP GLASSES ON A STRING AROUND THE NECK SO THEY CAN BE QUICKLY REMOVED AND PUT BACK ON.
IF YOU DROP THEM YOU WONT HAVE TO LOOK AWAY FROM THE ROAD BECAUSE THE STRING WILL CATCH THEM.

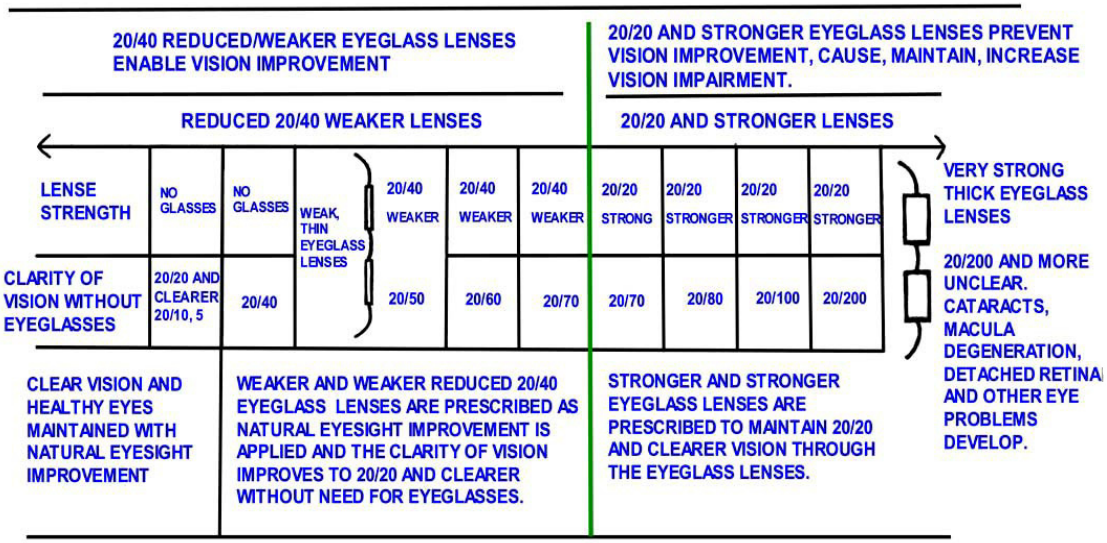
THE SOONER ALL GLASSES ARE DISCONTINUED, THE FASTER AND EASIER VISION IMPROVES.

CORRECT VISION HABITS; SHIFTING, CENTRAL FIXATION, RELAXED MIND, EYES, BODY, NECK ARE USED WHEN WEARING GLASSES AND WHEN NOT WEARING THE GLASSES.

THE READING OF FINE PRINT IN THE SUNLIGHT DAILY IS A VERY EFFECTIVE BATES NATURAL EYESIGHT IMPROVEMENT METHOD TO IMPROVE THE CLARITY OF CLOSE VISION.
IT ALSO IMPROVES DISTANT VISION, REMOVES ASTIGMATISM, AND GIVES THE READER A DAILY DOSE OF FULL SPECTRUM SUNLIGHT.
READ THE PRINT WITHOUT WEARING EYEGLASSES.

IMPROVING THE CLARITY OF CLOSE VISION AUTOMATICALLY IMPROVES CLARITY OF DISTANT VISION.
LIGHT RAYS IN THESE DIAGRAMS ARE SHOWN IN A SIMPLE FORM AS IN MANY OPTOMETRY TEXTS.

EFFECT OF WEAK AND STRONG EYEGLASS LENSE PRESCRIPTIONS



IN THE DIAGRAM ABOVE THE PERSON HAS 20/70 UNCLEAR DISTANT VISION (NEARSIGHTED).
THE LARGE LETTERS OF THE 70 LINE ON THE DISTANT EYE CHART ARE SEEN CLEAR AT 20 FEET AWAY.
THE SMALLER LETTERS BELOW THE 70 LINE ARE UNCLEAR AT 20 FEET.
IN THE EXAMPLE ON THE LEFT < SIDE OF THE CHART THE PERSON AVOIDS 20/20 AND STRONGER EYEGLASS LENSES.
THE PERSON PRACTICES NATURAL EYESIGHT IMPROVEMENT AND WEARS REDUCED, WEAKER 20/40 EYEGLASS LENSE PRESCRIPTIONS ONLY WHEN NEEDED FOR DRIVING AND OTHER ACTIVITIES REQUIRING SAFETY.
EACH TIME THE CLARITY OF VISION IMPROVES A NEW MORE REDUCED, WEAKER PAIR OF EYEGLASS LENSES PROVIDING 20/40 VISION THROUGH THE LENSES ARE PRESCRIBED.
THE EYEGLASSES ARE USED AS LITTLE AS POSSIBLE.
NATURAL EYESIGHT IMPROVEMENT, CORRECT VISION HABITS ARE APPLIED WHEN WEARING THE LENSES AND WHEN NOT WEARING EYEGLASSES.
AVOID SQUINTING, STRAINING, TRYING HARD TO SEE CLEAR WHEN WEARING THE REDUCED 20/40 LENSES AND WHEN NOT WEARING THE LENSES.
ALWAYS USE CORRECT VISION HABITS; SHIFTING, CENTRAL FIXATION... WHEN WEARING THE 20/40 LENSES AND WHEN NOT WEARING EYEGLASSES.
LOOK AT A OBJECT THROUGH 20/40 LENSES THE SAME CORRECT WAY THE EYES WITH 20/40 (OR ANY LEVEL OF CLARITY) LOOK AT A OBJECT WITHOUT EYEGLASSES; SHIFT FROM PART TO PART, USE CENTRAL FIXATION, BLINK, RELAX, MOVE THE HEAD/FACE, BODY WITH THE EYES.
NECK IS RELAXED AND MOVES FREELY.
GOOD POSTURE.

WHEN THE VISION WITHOUT EYEGLASSES REACHES THE 20/40 LEVEL, EYEGLASSES ARE DISCONTINUED.
20/40 VISION IS THE LEVEL REQUIRED IN MOST STATES FOR DRIVING.
VISION IMPROVES EASIER AND FASTER WHEN ALL EYEGLASSES ARE COMPLETELY AVOIDED.
EYEGLASSES CAN BE DISCONTINUED AT ANY LEVEL OF CLARITY, EVEN IF THE VISION IS MOST UNCLEAR, AS LONG AS DRIVING, OPERATING MACHINERY AND OTHER TASKS THAT REQUIRE A SPECIFIC LEVEL OF CLARITY FOR SAFETY ARE AVOIDED.

THE RIGHT > SIDE OF THE CHART SHOWS EYE AND VISION IMPAIRMENT THAT IS CAUSED BY WEARING 20/20 AND STRONGER (20/15, 10) EYEGLASS LENSE PRESCRIPTIONS.
THE STRONG LENSES LEAD TO FREQUENT PRESCRIPTIONS FOR STRONGER AND STRONGER EYEGLASS LENSES.
STRONG LENSES CAUSE, MAINTAIN, INCREASE EYE MUSCLE TENSION, DYSFUNCTION, ABNORMAL LENGTHENING, SHORTENING OF THE EYES SHAPE, IRREGULAR EYE SHAPE RESULTING IN INCREASED BLUR AND OTHER EYE PROBLEMS.

If the student cannot find a Optometrist that will prescribe reduced lenses, then try searching for a Bates Method Behavioral Optometrist. Behavioral Optometrists teach Behavioral Optometry, a method close to the Bates Method. Behavioral Optometrists are familiar with the Bates method and often teach it, will monitor the eyes, vision as the method is applied and prescribe reduced, weaker eyeglass lenses if needed. Many do not teach the Bates Method and secretly prefer to sell eyeglasses, contact lenses, eye surgery and other harmful methods.

Students (after a eye exam) have learned how to write their own prescription for reduced, weaker low cost eyeglass lenses and order them through the mail directly from Optical Companies. This is done by students that cannot find a honest eye doctor that will teach Natural Vision Improvement and prescribe reduced eyeglass prescriptions.

The three websites listed below are Optical Companies that sell mail order, low cost, reduced, weaker eyeglass lenses without UV blocking, tinting, coating;

http://www.zennioptical.com/cart/home.php?cat=20 - Fill in your prescription at Zenni-Optical - Reduced lenses by mail.

http://www.eyeglasslensdirect.com/ (customer service at eyeglasslensdirect states they have full spectrum transmitting lenses, no UV blocking, no tinting, coating. Phone; 1-888-885-5367).

See the webpage and e-books for mail-order optical stores, P.D. (spacing, placement of the left, right eyes' eyeglass lens for correct eyeglass frame size), entire directions to lower your prescription strength and obtain permanent freedom from eyeglasses; http://cleareyesight-batesmethod.info/id36.html

http://www.selectspecs.com/ - Customer service at selectspecs says they have plain eyeglass lenses; Order by un-selecting UV blocking, tinting and other unwanted additions on the prescription page and, you can also tell them in the 'Additional info' box to omit UV blocking, tinting, coating and other additions. Specify you want plain lenses. Phone; 1-845 704-7091

When contacting any of these businesses; make sure that the optician understands that you want plain, clear lenses with special plastic that allows full spectrum sunlight to pass through the lenses. If these are not available, then lenses that are plain with no UV blocking, no tinting, coating... is the next best thing to purchase. Unbreakable plastic lenses are best to prevent eye injury if the lenses break.

Bates Method Behavioral Optometrists, Ophthalmologists will prescribe reduced lenses and Natural Vision Improvement training. Choose carefully; Avoid eye doctors selling the plus lens anti-corrective method, auto-stereograms-magic eyes and other unnatural methods. Go to a true Bates Method teacher to be referred to a true Bates Method eye doctor.

Buy/wear plain, clear reduced lenses only! Avoid eyeglasses containing UV light blocking, filters, tinted, dark, transitions lenses, colored lenses, sunglasses, bifocals, mono-vision...
Most optical businesses state that these (harmful) additions are placed in all their eyeglass lenses. The buyer must be sure the eyeglasses do not contain these additions.

Find a optical business that prescribes low cost, reduced eyeglasses that are plain clear lenses, full spectrum transmitting; the lenses allow all waves of the suns light spectrum, full spectrum, including UV light to transmit/pass through the eyeglass lenses and reach the eyes. Full spectrum transmitting lenses are better but not perfect; they are not completely natural, do not provide pure, complete full spectrum sunlight. This is not a true, perfect full spectrum, but is close as possible for light passing through a lense.
There are businesses that sell window glass, plastic that is full spectrum transmitting, but the only true, natural full spectrum sunlight is direct sunlight not passing through glass, plastic, any substance. The eyes need all wave lengths of the suns light spectrum, healthy full spectrum sunlight.
UV blocking lenses, tinted, colored lenses, sunglasses and even plain, clear lenses cause unhealthy, unbalanced light to enter the eyes, brain, body resulting in eye, brain, body health impairment, depression, lowered memory, imagination, unclear vision, sleep disruption, impaired eye health.

Avoid all eyeglasses. Wear a hat with a brim to avoid overexposure to sunlight. Wear only reduced, plain, clear lenses and only when needed for safety while vision is improving.

Incorrect Eyeglass Prescription Example

In Oct. 2009-Nov 2010, a neck, back injury caused by a dishonest Chiropractor in Worcester, MA resulted in this patient (Clark Night, book Author) experiencing health and vision impairments: many neck, back vertebrae out of alignment, twisted on the spine, (this places tension, pulling on the spinal cord, brain stem, eye muscle nerves, optic nerve, muscles, nerves, lymph, blood vessels traveling to the brain, eyes, ears, sinus, arms, legs...) extreme neck muscle tension, sprain, swirling black lines, black dot, moving colors in the visual field, foggy, dark visual field upon awakening, double vision, ghostlike after images of objects (another form of double vision: I will look at a object, then when I look away; a ghostly, in color, image of the object appears for a second), sleep disturbances, nightmares, ringing ears, balance impairment, dizziness, vertigo, all over body muscle, joint tension, severe trouble walking for 12 months, sinus infections, swelling, fluid in sinus placing pressure on the eyes, optic nerve, eye muscle nerves, visual illusions: wavy, moving objects in the central and peripheral field, temporary lowered distant and close vision with astigmatism, other visual disruptions, stiff, 'frozen like' eyes, eye movement 'shifting', convergence, divergence, fusion impairment.
Medical Doctors and an Optometrist's Optician assistant said the neck injury, along with the air pollution in Worcester can cause the sinus pressure and the neck, sinus conditions can cause the eye problems. All are connected. (Incorrect use of a non-Bates Method Artificial 3-D Fusion eye exercise may have started or added to the eye movement, divergence impairment, astigmatism condition experienced in Sept-Nov. 2010 with the sinus pressure. I regretfully went against my Bates Teacher's advice. He states to avoid the Artificial 3-D Fusion eye exercises. I always test, experience vision treatments myself, first, before writing about it, so I can give my readers correct information. This is explained further in this books Fusion Chapter.)

Incorrect computer posture, looking down at the keys, 6-12 hr. days now partly activates, returns the neck injury. Posture did not cause a problem before the injury.

Example of Eyeglass Lens Prescription

Distance	Eyes	Sphere Clarity of Vision & Eyeglass lens strength - = Myopia-Distant Vision + = Hyperopia-Close Vision Minus and Plus - + signs also indicate positive and minus eyeglass lens type, strength.	Cylinder Eyeglass lens strength, type for Astigmatism in the eye. Amount of the Astigmatism in the eye.	Axis Placement, angle, type of Astigmatism in the eye, cornea. The direction of the astigmatism in degrees and; placement, orientation of the Eyeglass Cylinder.	PD Distance between the two eyes Pupils. Eyeglass lens, frame size to fit, center the lenses exactly to the eyes pupils.
D.V. Distant Vision	OD Right Eye	-1.00	-0.75	025	33
	OS Left Eye	-1.75	-1.00	175	33
N.V. Near Vision	OD Right Eye	+1.50			
	OS Left Eye	+1.00			

Myopia=Nearsight - Distant Vision Unclear Hyperopia=Farsight - Close Vision Unclear.

Rx		SPHERICAL	CYLINDRICAL	AXIS	PRISM	BASE
D.V.	O.D.					
	O.S.					
N.V.	O.D.					
	O.S.					

REMARKS_____ P.D. ____ /____

Axis: Where the uneven area, difference in the eyes curvature that is causing the astigmatism is.
The Eye doctor, lens creator places the area of the eyeglass lens that contains the astigmatism correction at the correct area in front of the eye, cornea to stop the appearance of astigmatism in the visual field. Other areas of the glass that do not contain a astigmatism correction are placed in the correct area in front of the eyes/cornea.
Look at the lines on the astigmatism wheel Chart without glasses: blurry, distorted, double... lines seen are the angle of astigmatism in the eye.

Doctors use the top numbers, ½ chart: 0-180 degrees to determine the astigmatism location. Like a protractor ruler.
The round chart in the Astigmatism Chapter shows all numbers: 0-360 for a exact test of all areas of the eye, cornea.
The Chart can be used to practice shifting, tracing on the lines to remove the astigmatism from the eyes. This also improves clarity.

The neck injury was caused by the chiropractor in Oct. 2009 and it took 13 months of visits, treatments from other doctors, many afraid to get involved, refusing to treat me. This is the first time in my life I have experienced these severe health, vision impairments. I am still not completely healed. In Treatment by a Physical Therapist, Osteopath.
The eye doctor that wrote the top distant vision prescription for me in Nov. 2010 is not a Bates Method Behavioral Optometrist. He stated the patient (Clark Night) had fluctuating 20/40 - 20/60 - 20/20 vision in the left, right eyes with astigmatism in both eyes. (Near vision numbers in the prescription are placed here only for an example. Doctor found my near (close) vision clear.
Close vision remains clear at age 54, due to reading fine print, Bates Method. It was blurry after the neck injury. Bates Method returned it to clear, fine print seen at 20-6-3 inches from the eyes.) The Doctor told the patient that the Bates method will never cure myopia, astigmatism. The entire exam was done only with machines. Had extreme neck tension, sinus infection, head, neck immobile while placed in the machine, eye movement restricted, rushed to hurry and see the letters in the machine.

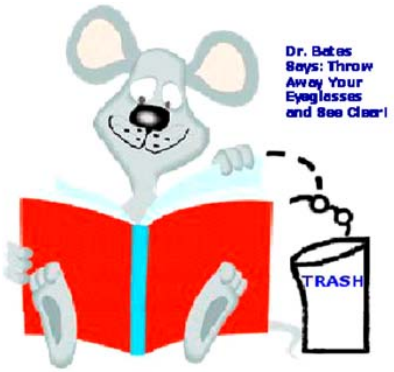
The eye doctor placed uneven prescriptions in the left and right eyeglass lenses and added astigmatism sections. This will cause more vision impairment. The patient refused to wear the glasses; she left them in the doctor's office because the eyeglass lenses were extremely blurry, impossible to see through when they arrived after 2 weeks of the patient practicing Natural Eyesight Improvement and eliminating a sinus infection with salt sea water. The patient regained clear eyesight with practice of the Bates Method and avoiding eyeglasses.

No Eyechart on the wall to test the vision. Could not use the Bates Method with completely natural eye function to read letters in the machine. Advertisement for Cornea Eye Laser Surgery in the forms the patient must fill out when waiting for the appointment.
Questions were discouraged and very limited, evasive answers were given to the cause of the eye condition. Would not state cause of visual illusions, eye movement impairment... Said, "It's ok". (I thought he might be afraid to get involved with stating anything about the neck injury the dishonest chiropractor caused.) Eyeglasses were stated as the only option. He prescribed strong 20/20 lenses with astigmatism corrections. This prescription will maintain, quickly increase the level of blur, astigmatism in the eyes, cause new types of blur, astigmatism, vision impairment to occur at all distances, prevent the eyes, visual systems natural reversal, removal of the blur, (myopia) astigmatism. When I lived here in Worcester 5 years ago the same astigmatism effect caused by sinus pressure, congestion occurred. It was cured by moving to Boston, MA, clean ocean air. It has returned after living here 4 years. I am moving soon. I gave up trying to talk to the doctor about the Bates Method and natural cures for vision, health.
Notice that the left and right eyes eyeglass lenses for myopia and astigmatism prescription are unbalanced: different strengths of eyeglass lenses. This will greatly impair the eyes fusion, binocular vision, 3-D vision, convergence, divergence, accommodation, un-accommodation, eyes ability to work together, will impair left and right brain hemisphere (entire brain) function with the left and right eyes. Doctor tried to sell bifocal glasses: plain lens on bottom and distant lens on top. This would further impair eye movement, central-fixation, will cause, increase neck muscle tension and will quicken, increase vision impairment. A direct road to cataracts and eye surgery. I refused the bifocals and this made the doctor upset. I was not allowed option for no astigmatism correction and not allowed reduced weaker lenses for use with the Bates Method, Natural Vision Improvement.
After the eye exam, I refused the eyeglasses, placed them in the Doctor's trash can. I used the Bates Method. Natural Vision Improvement has returned my vision to normal. Cured the sinus condition 90%, improving neck vertebrae alignment, relaxing the neck muscles with the Osteopath, Physical Therapy, Massage, improving posture, computer use with frequent breaks, stretching, relaxation, looking to the distance. Astigmatism was removed by also using the Natural Vision Improvement Astigmatism Wheel Charts, Central-fixation, Shifting with both eyes together, one eye at a time, both together again, Astigmatism Swings, Palming...
The blur and astigmatism is now removed after 2 weeks practice of Natural Vision Improvement. Vision fluctuates to 20/40 when neck injury is re-activated by lifting, strain, poor computer posture, but is corrected quickly.
The good part of the eye exam: the doctor checked to be sure that the chiropractic injury did not cause a detached retina, cataract, stroke. Eye doctors can detect these by looking into the eye. I refused eye drops due to the drug companies placing toxins in all their drugs. The doctor was understanding, kind. Knowing my eyes are healthy relaxed my mind, removed worry, stress.
This greatly helped my vision to return to normal. Fear, stress alone can cause blur, astigmatism, impair eye movement and block various brain functions with the eyes.
Sinus pressure, neck tension, vertebrae misalignment, worry does affect the clarity of close, distant vision and eye movement.
All return to normal when the patient uses the Bates Method, correct posture, better computer habits, clean air, warm steam humidifier with pure sea salt, less sugar, no extreme heavy lifting, no Artificial 3-D Fusion eye exercises. None of this was suggested by the Eye Doctor! Absolutely nothing was taught to improve the condition naturally!
People can improve their vision naturally. An injured neck causing many vision problems was repaired 90% and vision returned to clear due to this patient's training by Bates Method Teacher's. Most people do not have injuries, can improve their vision quickly, easily with a little knowledge of Natural Vision Improvement.

Reduce Your Eyeglass Lense Strength to 20/40

Learn how to create a eyeglass lens prescription to lower the strength of a strong 20/20 eyeglass lens prescription (prescribed by most eye doctors that do not teach Natural Vision Improvement) to a weaker, reduced strength of eyeglass lens that provides 20/40 vision on the eyechart to enable, help improve relaxation of the eyes, eye muscles, visual system and practice of the Bates Method. (I have not worn glasses for 35 years so I have no experience with this.) Compare two pair of glasses: one that provides clear 20/20 vision on the eyechart. The other glasses 'weaker', provide 20/40 vision. The difference in these numbers may be the number to reduce future lens to as vision improves if the vision

improves at the same level, but, if it improves more, then this number will be incorrect, the lens will be too strong. The question is: how much strength 'diopters' must the persons 20/20 lens be reduced to create a weaker 20/40 lens each time the vision improves?
Most eye doctors will not do this for the patient because it results in vision improvement, freedom from eyeglasses, can prevent: cataracts, other eye problems, sale of eye surgery.
Eyeglass strength, reduced to 20/40 clarity will be different for each person's level of clarity without the glasses. Example: A person that sees 20/80 without glasses, gets reduced lens providing 20/40 clarity. He will have a specific, different lens strength to produce that 20/40 state than a person with 20/60 vision without glasses being prescribed a reduced 20/40 eyeglass lens clarity. The 20/60 person will have weaker lens than the 20/80 person and still see 20/40 clarity through the glasses.
Some people prefer to get more reduced, weaker lens: 20/50, 60 if they do not need glasses for driving, work, safety... These glasses provide more relaxation of the visual system, more and faster vision improvement before needing to purchase new further reduced eyeglass lens. A Bates Method Behavioral Optometrist or Natural Vision Improvement Teacher specializing in reduced lenses knows how to do this. A person that has kept their old weaker eyeglasses (lenses) may be able to use old, weaker and weaker pairs of glasses if they provide 20/40 or weaker clarity each time a weaker pair is needed as the vision progressively improves. There must be no astigmatism correction in the reduced lens, no bifocal, no tinting... If astigmatism must be kept in the glasses to see, drive: get the astigmatism reduced, weaker each time the glasses are reduced as the vision improves with application of the Bates Method.
Many Optical businesses now sell low cost eyeglasses on-line: Experienced patients can write their own prescription. No eyeglasses is best. Reduced lenses are used only when necessary for driving, safety at work, play... http://www.zennioptical.com



Pinhole Glasses

Pinhole glasses are unnatural, act like dark, tinted lenses, sunglasses; they block healthy full spectrum sunlight and lower the clarity of vision, health and function of the eyes. The pinholes act as sunglasses and widen the pupil unnaturally in the light. This is harmful to the visual system, function of the brain with the eyes, pupil, iris, lens, retina. Dark glasses cause watering eyes, sensitivity to light, impairs light tolerance.
Pinhole glasses do not help the eyes function correct, do not improve function of the eye muscles and brain with the eyes, eye muscles, retina. Pinholes block normal eye, brain, visual system function; prevent the eyes from functioning, focusing, moving perfectly, natural; prevents normal, complete eye movement 'shifting', central-fixation, all Correct Vision Habits, accommodation, convergence, un-accommodation, divergence, binocular vision, fusion, depth, distance perception, 3-D vision. The fovea centralis, eyes 'central field' must avoid the black area of the glasses and move to, look through only the pinholes. This makes it difficult for the central light ray to focus perfectly on the center of the fovea centralis. This blocks full, free eye movement, normal central-fixation. Pinholes prevent the eye muscles (ciliary, iris/pupil/lens, recti, oblique...) from functioning normally. Objects seen through pinholes appear smaller, incorrect size. This impairs memory, imagination, function of the brain with the eyes. All eyeglasses including pinholes disrupt normal blinking, can cause headaches.
Pinholes reduce some of the light rays entering the eye. This reduces some of the blur produced by unfocused light rays in eyes that needs vision improvement. Pinholes act as the eyes pupil does in sunlight; in sunlight the pupil becomes smaller; this reduces light rays in the eye. This is why day vision is clearer than night vision when the eyes need vision improvement. Pinholes do this all the time, in all light and in an unnatural way. This is unhealthy, confuses the brain, eye muscles, iris/pupil muscles, impairs their function... (The iris/pupil muscle is interconnected with the ciliary, lens muscle. Tear gland and other muscles are in the same area and can affect each other when tense, not functioning correct.) Squinting, an Incorrect Vision Habit that causes eye, eye muscle tension and unclear vision is a form of a unnatural pinhole effect.

People with cataracts, other eye, vision impairments may see better through pinholes, but this is temporary and prevents Natural Vision Improvement, a return to natural clear vision, healthy eyes. Pinhole glasses are illegal, not safe for driving, work, play.

Pinholes are used only in emergencies, for a few seconds to read fine print on a medicine bottle, a distant sign... to prevent squinting and use of eyeglasses. It's better to use the pinhole glasses for a couple seconds than to put on eyeglasses and tense up the eye muscles, eyes, visual system and reverse your vision improvement process. If eyeglasses are needed; only reduced weaker lenses are used and as little as possible. Pinhole glasses are better than eyeglasses because they cause less strain than eyeglass lenses, less eye muscle tension so, this can help the vision improve. Pinholes should not be a replacement for natural vision. The more eyeglasses, pinholes are avoided, the faster and easier the vision improves. When the vision improves with use of The Bates Method, then pinhole glasses, eyeglasses are discontinued.

Warning; Avoid Plus Lens Therapy

Some eye doctors sell the use of strong plus convex lenses (close vision eyeglass lenses) to be worn to improve clarity of distant vision. They state that this method forces the eye muscles to stretch and strengthen to improve focus for distant vision. Stronger and stronger lenses are used.
This is not natural, it causes increased strain, tension, confusion, dysfunction of the visual system, outer and inner eye muscles, nerves, brain, body, impairs activation, integration, function of the left and right brain hemispheres, optic chasm, visual cortex, retina, are addictive and result in increased blur, close and distant vision impairment, cataracts, headaches, dizziness, strabismus and other eye problems.
These businesses are sneaking onto Bates Method discussion groups, forums on the internet and promoting this harmful method. Avoid this method!! They are trying to sell to adults and especially children. These lenses will impair growth, function of the child's eyes, brain, learning, memory, concentration... and cause more vision problems.
Never wear strong eyeglass lenses.
Do not wear close vision lenses for distant vision.
Do not wear distant vision lenses for close distances.

A negative, minus eyeglass lens for distant vision causes increased eye muscle tension and abnormal lengthening of the eye = increased distant and close vision impairment and other eye problems; detached retina, macula degeneration, cataracts...
A positive, plus eyeglass lens for close vision causes increased eye muscle tension and abnormal shortening of the eye - increased close and distant vision impairment and other eye problems; detached retina, macula degeneration, cataracts...
Avoid all forms of eyeglass lenses. Use the Bates Method.
See article below; using close vision (Plus Lenses) to attempt to reverse unclear distant vision strains the eye muscles, causes eye muscle imbalance, dysfunction, impairs left and right brain hemisphere activation, integration, all brain functions with the eyes, eye muscles.
People develop fast, increased vision impairment, cataracts, detached retina and other eye problems from using close and distant vision lenses.

When a person wears reduced, weaker eyeglass lenses for close and distant vision, sometimes, as the vision improves due to use of the Bates method, lenses for a specific distance will become too strong and need to be reduced again. In this case the lenses for that distance may now be the correct reduced strength for the other distance. A Bates teacher can describe this better. This is a completely different method than the harmful use of strong or weak plus lenses for distant vision.

I prefer the Bates student that needs to use reduced lenses to use; reduced, weaker & weaker distant vision lenses for distant vision and reduced, weaker & weaker close vision lenses for close vision and to eliminate use of eyeglasses as soon as possible.

There are many new unnatural methods being sold by the optical industry, surgeons, people selling books and other devices that promise vision improvement but result in eye, vision damage.

Stay with the Bates Method. The Bates method relaxes the eye muscles, returns the muscles to correct function for clear vision at all distances close and far without eyeglasses. The Bates method is safe, healthy, the normal, natural function of the eyes.

MY TECHNIQUE IN MYOPIC CASES
in the "Land of Myopes"

By DR. C. P. RAKUSEN, Shanghai, China

The author, with 15 years of practice and research in the "Land of Myopes," reaches surprising conclusions in regard to pseudo-myopia in youthful cases and results from use of plus repression prescriptions.

I was greatly interested in the article "Simple Myopia; Preventive Treatment" in THE JOURNAL-REVIEW'S issue of March 1, 1936, in which Doctor Haberfeld comments on his "technique for lessening the tendency of myopia in children." He "feels that every optometrist should know of the basic principles involved" in what he calls his "Teleopto lens formula." Doctor Haberfeld submits the article as a synopsis of the principles of his lecture before the A.O.A. convention at Miami in June, 1935.

This subject should be brought to the attention of optometrists everywhere, and I welcomed Doctor Haberfeld's treatise as a means to this end. While editorial reference to the article stated that the newspapers referred to the "Teleopto" as the discovery of a new lens for myopic cases, I regret that the subject should have been handled thus. There is, of course, no new lens-invention involved at all; it is only the technique of handling these cases which is new.

On the technique and much of the subject matter of Doctor Haberfeld's article, I wrote in articles from 1930 onward, culminating in an article in 1933 on "Optical Prisms" and in 1935 an article entitled "Plus Lenses for Myopia." These articles were, to my knowledge, the first published to advocate plus repression lenses and (or) plus Rx, with prisms for youthful myopes.

I have been working on the subject in China ("Land of Myopes") for over 15 years, during which time, in discussions of my technique with oculists in China and with optometrists in other parts of the world, I have often been ridiculed at my "crazy ideas of plus lenses for myopes." One oculist, with whom I was corresponding, wrote to me in 1928, "your next step should be minus lenses to reduce hyperopia."

On account of this ridicule and of the radical technique involved, I hesitated to publish an article on the subject until about 1930 when, while examining several hundred school children among whom were a large percentage of myopes, I selected 10 whose age and history indicated recently acquired myopia. All had a manifest myopic spasm of one to two diopters, and naked vision of 20/200 to 20/100.

At first I had the school physician present to verify the naked vision, and then fitted all the children with plus repression lenses, with prism-base-in, to be worn constantly at all close work and, as much as possible, indoors. One week later, a recheck showed every one of the 10 had improved naked vision; three of them had normal 20/20 vision. A careful record for two years afterward showed further improvement in all cases and no retrogression, where plus lenses continued to be worn for all close work. In one case, where the glasses were later discarded, the myopic spasm returned.

More recently, in the past few years, since publication of my articles on the subject, I have received praise and commendation of my technique from medical practitioners in China, also from many well-known optometrists in America.

Illustrating the value of prescribing plus lenses in all cases of eyestrain, I may mention a child, aged 7, who was brought to me for eye-examination in January, 1930, complaining of headaches. Refraction showed entirely negative findings, except for a tendency to hold the book closer than usual, and no difficulty in reading the 20/20 line. I prescribed weak plus lenses, with weak prism base-in for school and home close work.

The child returned for periodical rechecks during the period 1930 to 1932 and when last seen, late in 1932, naked vision was O.U. 20/20 readily and was O.U. 20/40 with the plus lenses as worn. I next saw the patient almost three years later, in 1935, when she returned to China, when she was wearing O.U. minus 2.00, minus 0.50 axis 180.

The facts were, that after seeing me late in 1932, the parents returned to America and left the child with relatives to attend school in America. She broke her glasses and went without any for over a year when, eye-discomfort recurring, the relatives took her to an oculist who prescribed weak minus glasses. However, she continued to have headaches and visited one or two other oculists, each of whom changed the prescription, resulting in the final O.U. minus 2.00, minus 0.50 previously reported, which, I found, gave only O.U. 20/30.

I have little doubt that if the patient had continued to wear these glasses for several more years she would now be even more myopic and require stronger minus glasses.

I worked on the case for a year, and succeeded in reducing the myopic spasm by more than half, and patient is wearing my weak plus repression prisms for all close work.

Let me tell of one more interesting and very recent case:

Patient, a boy then aged 12, was brought in by his grandmother in 1931 complaining of eyestrain. Examination showed entirely negative findings, naked vision being 20/20 readily, amplitude of accommodation, etc., all normal. I advised "no glasses needed." I have not seen the patient since, but a few days ago a Rx was brought in by a local eye surgeon who does some refraction and with whom I am on very friendly terms, as he refers all his difficult cases to me. The Rx bore the patient's name, which I recalled, and reference to my files showed, by the date and age, that it was the same patient.

My oculist friend informed me that the patient, now aged 17, came to him complaining of eyestrain and wearing R. minus 1.25 sph.; L. minus 2.00 sph., fitted about two years ago by a local optician. The oculist's Rx, brought in to me, called for R. minus 2.00; L. minus 2.75.

It is interesting to note that this Rx was arrived at after examination with "drops," proving the fallacy of the theory that paralysis of the accommodation eliminates spasm. I am quite confident that this is another example of myopic spasm, wrongly "corrected" by minus lenses.

Inquiry showed that several years after I examined the boy in 1931, he happened to visit a local optician in company with a school friend who was having his broken glasses repaired. The optician "tested" both the boys' "sight" and prescribed for the one, as the boy was "short-sighted," which information was communicated to the parent who authorized the glasses to be made.

I could quote hundreds of similar cases, all proving beyond any question that this psuedo myopia in youthful cases should be treated with plus repression Rx, to relax the accommodation-convergence spasm. I would go so far as to recommend that weak plus lenses be given to all children, even those with only very slightly lowered vision, and including even those with normal vision who complain of eyestrain or ocular discomfort.

THE BOOKSHELF

By JOSEPH I. PASCAL, O.D., M.D.

Optometric Questionnaire, by H. C. Hughes, O.D., Monroe, La.; single copy, $1.75; in lots of 10, $1.50 each; in lots of 25, $1.25 each.

THIS is a mimeographed folder containing a series of about 2000 questions on practically all phases of optometry. It includes questions on the anatomy and physiology of the eye, on theoretic and practical optometry and on theoretic and practical optics. The questions are based primarily on Laurence's *Visual Optics*, though there are some supplementary questions, the answers to which will have to be sought in other books.

From the standpoint of testing one's knowledge or of prodding one on to find the answers for the questions he cannot answer, the set is quite satisfactory. It should help to set the student thinking more clearly on what he has read, as is always the case when one is asked to show one's knowledge of a subject by answering definite questions instead of merely rambling on. The questions on the whole are brief, definite and to the point.

This article describes how Plus lenses were prescribed when the persons eyes were normal. 3,4 years later the person still wears glasses.

Plus lense treatment consists of wearing Plus Lenses (close vision eyeglass lenses) for close and distant vision in an attempt to force the eye muscles, eyes to function for close distance when looking at close and far distances - in the attempt to force the eye muscles, eyes to change function, to force the abnormally lengthened eye that causes unclear distant vision to change shape, shorten nearer to the round eye shape that produces clear distant vision. (A round/slightly lengthened eye produces clear close vision).

The Bates Method is against the use of Plus Lense Treatment.

MY TECHNIQUE IN MYOPIC CASES in the "Land of Myopes"

By DR. C. P. RAKUSEN, Shanghai, China

The author, with 15 years of practice and research in the "Land of Myopes," reaches surprising conclusions in regard to pseudo-myopia in youthful cases and results from use of plus repression prescriptions.

I was greatly interested in the article "Simple Myopia; Preventive Treatment" in THE JOURNAL-REVIEW'S issue of March 1, 1936, in which Doctor Haberfeld comments on his "technique for lessening the tendency of myopia in children." He "feels that every optometrist should know of the basic principles involved" in what he calls his "Telecpto lens formula." Doctor Haberfeld submits the article as a synopsis of the principles of his lecture before the A.O.A. convention at Miami in June, 1935.

This subject should be brought to the attention of optometrists everywhere, and I welcomed Doctor Haberfeld's treatise as a means to this end. While editorial reference to the article stated that the newspapers referred to the "Telecopto" as the discovery of a new lens for myopic cases, I regret that the subject should have been handled thus. There is, of course, no new lens-invention involved at all; it is only the technique of handling these cases which is new.

On the technique and much of the subject matter of Doctor Haberfeld's article, I wrote in articles from 1930 onward, culminating in an article in 1933 on "Optical Prisms" and in 1935 an article entitled "Plus Lenses for Myopia." These articles were, to my knowledge, the first published to advocate plus repression lenses and (or) plus Rx, with prisms for youthful myopes.

I have been working on the subject in China ("Land of Myopes") for over 15 years, during which time, in discussions of my technique with oculists in China and with optometrists in other parts of the world, I have often been ridiculed at my "crazy ideas of plus lenses for myopes." One oculist, with whom I was corresponding, wrote to me in 1928, "your next step should be minus lenses to reduce hyperopia."

On account of this ridicule and of the radical technique involved, I hesitated to publish an article on the subject until about 1930 when, while examining several hundred school children among whom were a large percentage of myopes, I selected 10 whose age and history indicated recently acquired myopia. All had a manifest myopic spasm of one to two diopters, and naked vision of 20/200 to 20/100.

At first I had the school physician present to verify the naked vision, and then fitted all the children with plus repression lenses, with prism-base-in, to be worn constantly at all close work and, as much as possible, indoors. One week later, a recheck showed every one of the 10 had improved naked vision; three of them had normal 20/20 vision. A careful record for two years afterward showed further improvement in all cases and no retrogression, where plus lenses continued to be worn for all close work. In one case, where the glasses were later discarded, the myopic spasm returned.

More recently, in the past few years, since publication of my articles on the subject, I have received praise and commendation of my technique from medical practitioners in China, also from many well-known optometrists in America.

Illustrating the value of prescribing plus lenses in all cases of eyestrain, I may mention a child, aged 7, who was brought to me for eye-examination in January, 1930, complaining of headaches. Refraction showed entirely negative findings, except for a tendency to hold the book closer than usual, and no difficulty in reading the 20/20 line. I prescribed weak plus lenses, with weak prism base-in for school and home close work.

The child returned for periodical rechecks during the period 1930 to 1932 and when last seen, late in 1932, naked vision was O.U. 20/20 readily and was O.U. 20/40 with the plus lenses as worn. I next saw the patient almost three years later, in 1935, when she returned to China, when she was wearing O.U. minus 2.00, minus 0.50 axis 180.

The facts were, that after seeing me late in 1932, the parents returned to America and left the child with relatives to attend school in America. She broke her glasses and went without any for over a year when, eye-discomfort recurring, the relatives took her to an oculist who prescribed weak minus glasses. However, she continued to have headaches and visited one or two other oculists, each of whom changed the prescription, resulting in the final O.U. minus 2.00, minus 0.50 previously reported, which, I found, gave only O.U. 20/30.

I have little doubt that if the patient had continued to wear these glasses for several more years she would now be even more myopic and require stronger minus glasses.

I worked on the case for a year, and succeeded in reducing the myopic spasm by more than half, and patient is wearing my weak plus repression prisms for all close work.

Let me tell of one more interesting and very recent case:

Patient, a boy then aged 12, was brought in by his grandmother in 1931 complaining of eyestrain. Examination showed entirely negative findings, naked vision being 20/20 readily, amplitude of accommodation, etc., all normal. I advised "no glasses needed." I have not seen the patient since, but a few days ago a Rx was brought in by a local eye surgeon who does some refraction and with whom I am on very friendly terms, as he refers all his difficult cases to me. The Rx bore the patient's name, which I recalled, and reference to my files showed, by the date and age, that it was the same patient.

My oculist friend informed me that the patient, now aged 17, came to him complaining of eyestrain and wearing R. minus 1.25 sph.; L. minus 2.00 sph., fitted about two years ago by a local optician. The oculist's Rx. brought in to me, called for R. minus 2.00; L. minus 2.75.

It is interesting to note that this Rx was arrived at after examination with "drops," proving the fallacy of the theory that paralysis of the accommodation eliminates spasm. I am quite confident that this is another example of myopic spasm, wrongly "corrected" by minus lenses.

Inquiry showed that several years after I examined the boy in 1931, he happened to visit a local optician in company with a school friend who was having his broken glasses repaired. The optician "tested" both the boys' "sight" and prescribed for the one, as the boy was "short-sighted," which information was communicated to the parent who authorized the glasses to be made.

I could quote hundreds of similar cases, all proving beyond any question that this pseudo myopia in youthful cases should be treated with plus repression Rx, to relax the accommodation-convergence spasm. I would go so far as to recommend that weak plus lenses be given to all children, even those with only very slightly lowered vision, and including even those with normal vision who complain of eyestrain or ocular discomfort.

THE BOOKSHELF

By JOSEPH I. PASCAL, O.D., M.D

Optometric Questionnaire, by H. C. Hughes, O.D., Monroe, La.; single copy, $1.75; in lots of 10, $1.50 each; in lots of 25, $1.25 each.

THIS is a mimeographed folder containing a series of about 2000 questions on practically all phases of optometry. It includes questions on the anatomy and physiology of the eye, on theoretic and practical optometry and on theoretic and practical optics. The questions are based primarily on Laurence's *Visual Optics*, though there are some supplementary questions, the answers to which will have to be sought in other books.

From the standpoint of testing one's knowledge or of prodding one on to find the answers for the questions he cannot answer, the set is quite satisfactory. It should help to set the student thinking more clearly on what he has read, as is always the case when one is asked to show one's knowledge of a subject by answering definite questions instead of merely rambling on. The questions on the whole are brief, definite and to the point.

This method is unnatural, very harmful to the eye. It causes extreme tension, strain, dysfunction in the brain, eyes, eye muscles, causes increased blur, cataracts and other eye problems. Wearing eyeglass lenses for the incorrect distance causes confusion, dysfunction, chronic tension, strain in the brain, left and right hemispheres, visual cortex, visual system, eye muscles, eyes and increased vision impairment. Headaches, neck tension occur.

The Bates Method of Natural Eyesight Improvement relaxes the brain, eye muscles, eyes, returns all to normal function, returns the eye to correct shape for clear close and distant vision and keeps the eyes healthy. Avoid all eyeglasses, use the Bates method.

Reading fine print, shifting, central fixation on small details of small objects (stone, jewelry...) changes the eye to the normal round/slightly lengthened shape for clear close vision and coaxes the eye to avoid a abnormally lengthened shape and to change to the normal round shape when looking to the distance for clear distant vision.

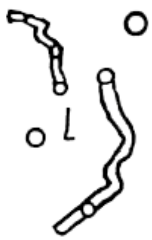
This article on the use of Plus lenses to treat unclear distant vision, Myopia is included in this book to show that the method is not effective. Plus lenses are eyeglass lenses that are prescribed for unclear close vision. Close vision eyeglass lenses cause fast, increased vision impairment at close and far distances and are a main cause of cataracts and other eye problems. People that have tried plus Lense treatment have developed cataracts and other vision impairments. Notice that the person in this article never stopped use of eyeglasses.

Floating Specks caused by Eyeglasses, Contacts, Laser Surgery, Sunglasses.

Eyeglasses, Contact lenses, Cornea Laser Surgery, Sunglasses, Staring cause Floating Specks by impairing natural eye movement, shifting, central-fixation, creating strain, tension in the eyes, eye muscles, neck, visual system, brain. Diet also affects the eyes health, function and can cause floaters.

Floaters, Floating Specks – Moving spots, lines, bubbles... in the visual field can appear in many forms, colors. They move when the eye moves and move away from the central field of vision. They are usually harmless.

Floating Specks.



Scientists state that floaters *Muscae Volitantes*, or *Flying Flies* are debris left in the eye from its development, injury or toxins in the body which can be removed by fasting, cleansing diet, improved liver, kidney health, avoiding: sugar, ingestion of chemicals, or chemicals in the air, on the skin, artery clogging food.

Ophthalmologist Bates states that tension in the mind, staring, squinting, limited eye movement, lack of central-fixation, eye muscle tension causes the appearance of floaters. Worrying about them, looking for the floaters, trying to prevent them from appearing and moving causes staring, eye muscle tension: the floaters then appear/stay in the visual field.

Dr Bates states that floating specks disappear when the mind, visual system, eye muscles, eyes relax causing the eyes to move, 'shift' correct – Relaxed mind, eye muscles, eyes produce all sizes, types of eye movements and it's the tiny, small shifts (saccadic eye movements, vibrations) and central-fixation that occur with relaxation, normal eye function that produce very clear vision, causes the floaters to disappear, stop moving around and the brain shuts them off.

Shift point to point on a fine print letter or small part on a distant or close object: left and right, top and bottom, diagonally... and notice the vision improves and floaters disappear. Clear vision removes floaters.

Practice shifting point to point on a fine print letter or tiny period with the eyes open. Then; imagine shifting on the letter or period with the eyes open without looking at it, see it in the mind only. Blink, relax. Then: do this with the eyes closed

using the memory and imagination, then with eyes open again. Notice the eyes do tiny movements even when shifting on the imaginary tiny object with the eyes open or closed. The floaters disappear.
Relaxed eye muscles, neck muscles, exercise, deep breathing improve blood/oxygen, nutrient, lymph flow, circulation to the brain, eyes, allows the eyes to remove waste, return eye fluid, lymph flow to normal. This removes floaters.

All Correct Vision Habits: Shifting, Central-fixation, Blinking, Switching Practice… and other Bates Method Activities; Long Swing, Rock, Sunlight, Deep Abdominal Breathing, good diet, avoiding processed sugar, aspartame, chemical exposure removes floaters. Food that improves the circulation in body, eyes helps cleanse the eyes, improves eye health.

Many floaters, suddenly appearing, flashing lights are a different type of floater and a sign of detached retina or other eye condition. See an Eye Doctor Immediately.
Migraine headaches can cause temporary flashing moving lights, patterns, blind spots in the visual field with or without the headache. Sinus headache, pressure can cause floaters and disrupt eye movement, cause blurry vision.

See Better Eyesight Magazine for a variety of Articles on Floaters

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

October, 1919

FLOATING SPECKS

Girl lying in the grass on a hill looking at the blue sky, white clouds and seeing floaters, imaging they are angels or outer space aliens, secret friends with magic powers that protect her.

A man returning from Europe was looking at some white clouds one day when floating specks appeared before his eyes. He consulted the ship's doctor, who told him that the symptom was very serious, and might be the forerunner of blindness. It might also indicate incipient insanity, as well as other nervous or organic diseases. He advised him to consult his family physician and an eye specialist as soon as he landed, which he did. This was twenty-five years ago, but I shall never forget the terrible state of nervousness and terror into which the patient had worked himself by the time he came to me. It was even worse than that of the clergyman, who was always ready to admit that his fears were unreasonable. I examined his eyes very carefully, and found them absolutely normal. The vision was perfect both for the near-point and the distance. The color perception, the fields and the tension were normal; and under a strong magnifying glass I could find no opacities in the vitreous. In short, there were absolutely no symptoms of any disease. I told the patient there was nothing wrong with his eyes, and I also showed him an advertisement of a quack medicine in a newspaper which gave a great deal of space to describing the dreadful things likely to follow the appearance of floating specks before the eyes, unless you began betimes (in good time, early) to take the medicine in question at one dollar a bottle. I pointed out that the advertisement, which was appearing in all the big newspapers of the city every day, and probably in other cities, must have cost a lot of money, and must, therefore, be bringing in a lot of money. Evidently there must be a great many people suffering from this symptom, and if it were as serious as was generally believed, there would be a great many more blind and insane people in the community than there were. The patient went away somewhat comforted, but at eleven o'clock—his first visit had been at nine—he was back again. He still saw the floating specks, and was still worried about them. I examined his eyes again as carefully as before, and again was able to assure him that there was nothing wrong with them. In the afternoon I was not in my office, but I was told that he was there at three and at five. At seven he came again, bringing with him his family physician, an old friend of mine. I said to the latter:

"Please make this patient stay at home. I have to charge him for his visits, because he is taking up so much of my time; but it is a shame to take his money when there is nothing wrong with him."

What my friend said to him I don't know, but he did not come back again.

I did not know as much about muscae volitantes then as I know now, or I might have saved both of these patients a great deal of uneasiness. I could tell them that their eyes were normal, but I did not know how to relieve them of the symptom, which is simply an illusion resulting from mental strain. The specks are associated to a considerable extent with markedly imperfect eyesight, because persons whose eyesight is imperfect always strain to see; but persons whose eyesight is ordinarily normal may see them at times, because no eye has normal sight all the time. Most people can see muscae volitantes when they look at the sun, or any uniformly bright surface, like a sheet of white paper upon which the sun is shining. This is because most people strain when they look at surfaces of this kind. The specks are never seen, in short, except when the eyes and mind are under a strain, and they always disappear when the strain is relieved. If one can remember a small letter on the Snellen test card by central-fixation, the specks will immediately disappear, or cease to move; but if one tries to remember two or more letters equally well at one time, they will reappear and move. Usually the strain that causes muscae volitantes is very easily relieved. See; April, 1925 and other issues;

FLOATING SPECKS

A very common phenomenon of imperfect sight is the one known to medical science as *muscae volitantes*, or *flying flies*. These floating specks are usually dark, or black; but sometimes appear like white bubbles, and in rare cases may assume all the colors of the rainbow. They move somewhat rapidly, usually in curving lines, before the eyes, and always appear to be just beyond the point of fixation. If one tries to look at them directly, they seem to move a little farther away. Hence their name of *flying flies*.

The literature of the subject is full of speculations as to the origin of these appearances. Some have attributed them to the presence of floating specks—dead cells or the débris of cells—in the vitreous humor, the transparent substance that fills four-fifths of the eyeball behind the crystalline lens. Similar specks on the surface of the cornea have also been held responsible for them. It has even been surmised that they might be caused by the passage of tears over the cornea. They are so common in myopia that they have been supposed

to be one of the symptoms of this condition, although they occur also with other errors of refraction, as well as in eyes otherwise normal. They have been attributed to disturbances of the circulation, the digestion and the kidneys, and because so many insane people have them, have been thought to be an evidence of incipient insanity. The patent-medicine business has thrived upon them, and it would be difficult to estimate the amount of mental torture they have caused, as the following cases illustrate.

A clergyman who was much annoyed by the continual appearance of floating specks before his eyes was told by his eye specialist that they were a symptom of kidney disease, and that in many cases of kidney trouble, disease of the retina might be an early symptom. So at regular intervals he went to the specialist to have his eyes examined, and when at length the latter died, he looked around immediately for some one else to make the periodical examination. His family physician directed him to me. I was by no means so well known as his previous ophthalmological adviser, but it happened that I had taught the family physician how to use the ophthalmoscope after others had failed to do so. He thought, therefore, that I must know a lot about the use of the instrument, and what the clergyman particularly wanted was some one capable of making a thorough examination of the interior of his eyes, and detecting at once any signs of kidney disease that might make their appearance. So he came to me, and at least four times a year for ten years he continued to come.

Each time I made a very careful examination of his eyes, taking as much time over it as possible, so that he would believe that it was careful; and each time he went away happy because I could find nothing wrong. Once when I was out of town he got a cinder in his eye and went to another oculist to get it out. When I

came back late at night I found him sitting on my doorstep, on the chance that I might return. His story was a pitiable one. The strange doctor had examined his eyes with the ophthalmoscope, and had suggested the possibility of glaucoma, describing the disease as a very treacherous one which might cause him to go suddenly blind and would be agonizingly painful. He emphasized what the patient had previously been told about the danger of kidney disease, suggested that the liver and heart might also be involved, and advised him to have all of these organs carefully examined. I made another examination of his eyes in general and their tension in particular; I had him feel his eyeballs and compare them with my own, so that he might see for himself that they were not becoming hard as a stone; and finally I succeeded in reassuring him. I have no doubt, however, that he went at once to his family physician for an examination of his internal organs.

A man returning from Europe was looking at some white clouds one day when floating specks appeared before his eyes. He consulted the ship's doctor, who told him that the symptom was very serious, and might be the forerunner of blindness. It might also indicate incipient insanity, as well as other nervous or organic diseases. He advised him to consult his family physician and an eye specialist as soon as he landed, which he did. This was twenty-five years ago, but I shall never forget the terrible state of nervousness and terror into which the patient had worked himself by the time he came to me. It was even worse than that of the clergyman, who was always ready to admit that his fears were unreasonable. I examined his eyes very carefully, and found them absolutely normal. The vision was perfect both for the near-point and the distance. The color perception, the fields and the tension were normal; and under a strong magnifying glass I could find no

opacities in the vitreous. In short, there were absolutely no symptoms of any disease. I told the patient there was nothing wrong with his eyes, and I also showed him an advertisement of a quack medicine in a newspaper which gave a great deal of space to describing the dreadful things likely to follow the appearance of floating specks before the eyes, unless you began betimes to take the medicine in question at one dollar a bottle. I pointed out that the advertisement, which was appearing in all the big newspapers of the city every day, and probably in other cities, must have cost a lot of money, and must, therefore, be bringing in a lot of money. Evidently there must be a great many people suffering from this symptom, and if it were as serious as was generally believed, there would be a great many more blind and insane people in the community than there were. The patient went away somewhat comforted, but at eleven o'clock—his first visit had been at nine—he was back again. He still saw the floating specks, and was still worried about them. I examined his eyes again as carefully as before, and again was able to assure him that there was nothing wrong with them. In the afternoon I was not in my office, but I was told that he was there at three and at five. At seven he came again, bringing with him his family physician, an old friend of mine. I said to the latter:

"Please make this patient stay at home. I have to charge him for his visits, because he is taking up so much of my time; but it is a shame to take his money when there is nothing wrong with him."

What my friend said to him I don't know, but he did not come back again.

I did not know as much about muscae volitantes then as I know now, or I might have saved both of these patients a great deal of uneasiness. I could tell them that their eyes were normal, but I did not know how

to relieve them of the symptom, which is simply an illusion resulting from mental strain. The specks are associated to a considerable extent with markedly imperfect eyesight, because persons whose eyesight is imperfect always strain to see; but persons whose eyesight is ordinarily normal may see them at times, because no eye has normal sight all the time. Most people can see muscae volitantes when they look at the sun, or any uniformly bright surface, like a sheet of white paper upon which the sun is shining. This is because most people strain when they look at surfaces of this kind. The specks are never seen, in short, except when the eyes and mind are under a strain, and they always disappear when the strain is relieved. If one can remember a small letter on the Snellen test card by central fixation, the specks will immediately disappear, or cease to move; but if one tries to remember two or more letters equally well at one time, they will reappear and move.

Usually the strain that causes muscae volitantes is very easily relieved.

CORRESPONDENCE TREATMENT

Correspondence treatment is usually regarded as quackery, and it would be manifestly impossible to treat many diseases in this way. Pneumonia and typhoid, for instance, could not possibly be treated by correspondence, even if the physician had a sure cure for these conditions and the mails were not too slow for the purpose. In the case of most diseases, in fact, there are serious objections to correspondence treatment.

But myopia, hypermetropia and astigmatism are functional conditions, not organic, as the text-books teach, and as I believed myself until I learned better. Their treatment by correspondence, therefore, has not

Floating Specks

WHEN a patient stares or strains to see by looking at a light-colored surface he may see, or imagine he sees, floating black specks, strings of black thread or small light-colored globules resembling tears. The floating specks may be apparently a quarter of an inch or more in size and they may be of any shape.

The ability to see or imagine floating specks may occur in children or in adults of any age. Some children have been known to lie on their backs on the ground, look up at light colored clouds and amuse themselves for hours by watching what appeared to be floating specks.

Many nervous people have been made very unhappy, consciously or unconsciously imagining that they see these floating specks.

The cause of floating specks is an imperfect memory of perfect sight. Persons with normal vision who have never been conscious of floating specks can be taught how to imagine them by straining—to imagine letters, colors or other objects imperfectly.

Conversely, patients who are conscious of floating specks are unable to imagine them and perfect sight at the same time.

In the treatment of floating specks it is important to convince the patients thoroughly that they are only imagined and not seen. It helps very much to impress on the patient's mind that to see these floating specks requires a sufficient strain to lose a perfect imagination of all objects seen, remembered or imagined at all times and in all places.

Note.—Floating specks, October, 1919, "Better Eyesight."
Muscae volitantes (floating specks), pages 176 and 236, "Perfect Sight Without Glasses."

Avoid Artificial 3-D Fusion Repetitive Eye Exercises

This activity is only for treating crossed, wandering eyes 'Strabismus' and only if The Bates Method of Natural Eyesight Improvement has not corrected the condition. It must be applied with the direction of a Bates Method Behavioral Optometrist, Ophthalmologist. This Artificial 3-D exercise is not a natural Bates Method 'Switching Close and Far' activity as shown at the end of this book.

The assembler of this book and other people have experienced double vision, eye movement-convergence, divergence impairment from trying these eye exercises which are popular on the Internet and in some vision improvement books. The activity affects the way the brain, left and right hemispheres, visual cortex work with the eyes, eye muscles, eye muscle function and eye movement.

Practicing the 3-D image activity as a repetitive eye exercise and with incorrect directions seems to cause the most vision impairment. It is NOT Natural Eyesight Improvement. It can impair the vision. People experience impaired vision by being taught the wrong exercise, the wrong way and/or only some exercises when others are needed or over doing it. A few Natural Eyesight Improvement Teachers are now warning students not to practice Artificial 3-D exercises if there is any eye condition, especially with the eyes movement, or any eye, medical condition. It can cause, increase strabismus in an eye that has certain abnormal conditions, strabismus, body, brain, medical conditions, neck muscle tension, injury, vertebrae or skull bone misalignment and even in normal eyes or eyes that have a very slight strabismus that is not realized. It can impair central-fixation, shifting and other normal functions of the brain, eyes, visual system; notice the eyes must stare, are immobile to maintain the merged images. This is a main cause of unclear vision.

If an extreme Strabismus problem exists and the student is not gaining correct eye movement from practicing the Bates Method (which is rare); seek a Bates Method Teacher and Bates Method Behavioral Optometrist, Ophthalmologist for <u>in person</u> Bates Training and if necessary, optional short term, temporary advanced training with the Artificial 3-D Fusion.

Behavioral Optometrists teach 3-D Fusion activities with <u>specific directions</u> and it has helped some people obtain straight eyes, corrects crossed, wandering eyes, convergence, divergence, (strabismus, fusion) when applied correct. **It must be done correct, a specific way or vision impairment can occur.** Practice with the guidance of a Natural Vision Improvement Bates Method Behavioral Optometrist, Ophthalmologist and follow your eye doctors directions. The Eye Doctor teaches the student which activities are to be done for specific conditions, distances that the students eye movement, convergence, divergence, fusion... need improvement. The doctor may have the student practice with the 3-D image card placed at a variety of close, middle, far distances fusing the two images into a 3rd image by looking at a variety of, and/or only 1, 2… different close distances/objects before the card and/or a variety of and/or only 1, 2… different far distances/objects beyond the card. Objects are placed between the two images, between the left and right eyes, at eye level, center of the visual field. See pictures on the following pages.

A clear see through card or card with a window cut in the card below the two images to be merged is used for looking to the distance beyond the card for farther distances divergence. Spacing between the two images may be at a variety of widths. (1-4… inches apart.) Merging, fusing images that are further apart is

accomplished with advanced fusion training, if needed. Type of activities, distances to practice at, length of time each or only some of the activities, routines are practiced is determined by the student's condition; divergence or convergence impairment, type of strabismus; crossed, wandering eyes, eye movement impaired up, down, left, right, diagonally.., degree of impairment and other eye conditions. Only a professional can prescribe a safe, correct, precise routine. Practicing too much; at one distance, one activity, for the wrong distance, wrong activity or practicing when the eyes do not need it, practicing incorrect… can impair divergence, convergence, the vision.

Accommodation, un-accommodation work/occur with the eyes fusion, divergence, convergence. All are affected, improved or impaired, when the activities are done correct or incorrect.

These activities do produce a natural 3-D effect created by the eyes, brain. Seeing the correct double images and fused 3rd image indicates the brain, eyes are working together normally. I call these Artificial 3-D because it is not the normal way the person uses the eyes to see an object clear. True completely natural 3-D vision for healthy eyes, brain function occurs when looking directly at the object of visual attention, at the true distance the object is at, the object in the eyes central field, between the left and right eyes, at eye level with mind, visual attention, eyes on/at that object, distance.

Try the Bates Method first to correct strabismus; relaxation, central-fixation, shifting may be all that is needed. Central fixation helps merge the left and right eyes visual fields together, both eyes looking at, moving upon the object in the center of the visual field.

The Bates Method corrects many eye problems, including strabismus, crossed, wandering eyes without using the Artificial 3-D Image Exercises. Dr. Bates did not use this type of treatment. He did teach a similar but different one; seeing two candle flames… Read his Better Eyesight Magazines and search for the word Squint, crossed, wandering eyes, strabismus treatments; Squint - Feb., 1929. Pictures of the candle flame activity are in the Better Eyesight Magazine with 500 pictures free E-Book.

The natural, safe way to test and improve convergence, divergence, eye movement, clarity of vision at close, middle, far, all distances is;

The Pens in a Row, Bead (Brock) String and switching, shifting on objects at close, middle, far distances as shown in the Switching chapter in the E-Book and at the end of this book. **Here's a quick test;**

Place one pen between the eyes, eye level, center of the visual field, about 1 foot away. Look to the distance at an object in line with the pen. The pen appears double in the left and right peripheral field. See if the images are at an even height, straight up and solid. Then look directly at the pen; the two images of the pen move, fuse together into one perfect clear image of the pen. See the Switching chapter to test and improve close, middle and far vision. Phoria eye direction swings with the bead string are also very effective.

Artificial 3-D computer, video games, screen images (and 3-D artwork, pictures, paintings that can only be seen by un-focusing the eyes, crossing, uncrossing the

eyes at various distances) also impair the vision. They confuse and strain the brain, eyes, eye muscles by causing the brain, eyes to think, sense they are looking at a specific distance, location, image when in reality they are looking at a different distance and using images in the peripheral field to create another image.

Doctors have advised parents to keep children away from video games, this Artificial 3-D because it interferes with their brain, eye function, development and causes crossed, wandering eyes, blurry vision. Many games are violent and impair thinking, emotions. This also impairs the eyesight.

A simple Artificial 3-D Fusion Test done with the pen, kitty and tree stump is an old method and (for most people that do not have fusion… impairment, strabismus…) will not impair the vision if it is done only once, 1-3 seconds as a test to see if the eyes, eye muscles, brain, left and right brain hemispheres, visual cortex, optic nerve… are communicating, balanced, working together correct.

If the images do not fuse, it is not necessarily an indication of vision impairment. The Bates Method alone, without use of this type of test, exercises will correct the vision.

The 'Fused' picture above-on the right > is the image that should appear.

The next page contains an example of one activity a Behavioral Optometrist might apply to treat strabismus.

This is only one of many different tests, activities the doctor might use. This is only for an eye doctor to teach. I place the artificial 3-D image activity here so the reader knows what to seek, ask for when contacting a doctor, to know how, why it can impair the vision and know the difference between healthy Bates Method Switching and these 3-D Images which are not true, safe methods of switching close and far.

Artificial 3-D can CAUSE double vision, crossed, wandering eyes and lower the clarity of vision. It is best to avoid Artificial 3-D. If it is applied in a attempt to correct strabismus; work with a eye doctor. Specific pictures, spacing and distances... are applied for *each individual person, type of strabismus, brain hemisphere... function*. It must be done a certain way for each person, condition. An experienced eye doctor knows how to do this. To be applied only by the eye doctor, solely for strabismus! See the book *Sight Without Glasses* - Cross Eyes chapter, pg. 116 by Optometrist Harold M. Peppard (trained with Dr. Bates) for a example of an old Artificial 3-D machine, pictures. Warning; some eye doctors abuse this treatment. Example; they fix the eye muscle, eye, brain hemispheres problem. Then, they have the patient do the Artificial 3-D again, but this time; in a way that is wrong, reverses the improvement and causes the strabismus to return. The patient is then sold many more treatments for months, years. I have met people - adults and mothers with children that state a honest eye doctor has corrected wandering, crossed eyes with a specific type of Artificial 3-D and natural vision methods. I have met mothers, children, teens that state their vision, eye movement was impaired by eye doctors applying the artificial 3-D wrong. The safest option is to AVOID Artificial 3-D. Try the Bates Method FIRST! It does not consist of Artificial 3-D. It applies only 100% natural TRUE 3-D (three dimensional vision). The Bates Method alone is effective, will correct strabismus. Use Dr. Bates' treatments in this book and his *Better Eyesight Magazine* for clear vision, correct eye movement. Below; Example of a Eye Doctor's Artificial 3-D Treatment for Strabismus;

Eye, Brain Artificial 3-D Image Fusion Test

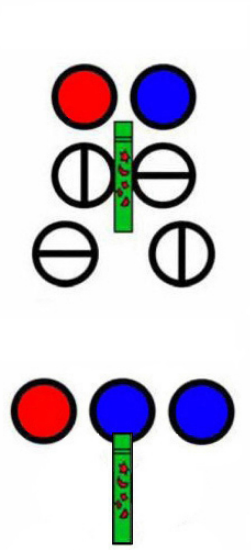
This is another version of the Fusion Chart. *(To be used ONLY with your eye doctor's instructions. With the doctor present.)* Place the red and blue circles at eye level, the space between the circles between the left and right eyes, center of the visual field, 12-20 inches away. Do not tilt the head. Keep it straight. Relaxed.

Place a pen below and between the two top circles, between the left and right eyes. (See picture below.) Look at and shift on the pen while moving it close and far from the eyes. Merge the 2 circles into a 3rd circle in the middle of the 2 circles. The circles are merged evenly, in perfect alignment. This indicates the eyes are aligned, coordinated.

Then; while looking at the pen directly below the 3rd circle: Think red; the circle appears red. Think blue; the circle appears blue. If these images are seen, this indicates that the eyes are even, balanced, the brain and eyes are working together, communicating correct. The eye muscles are aligned, coordinated, relaxed, contracting, un-contracting perfectly. Left, right visual fields merged.

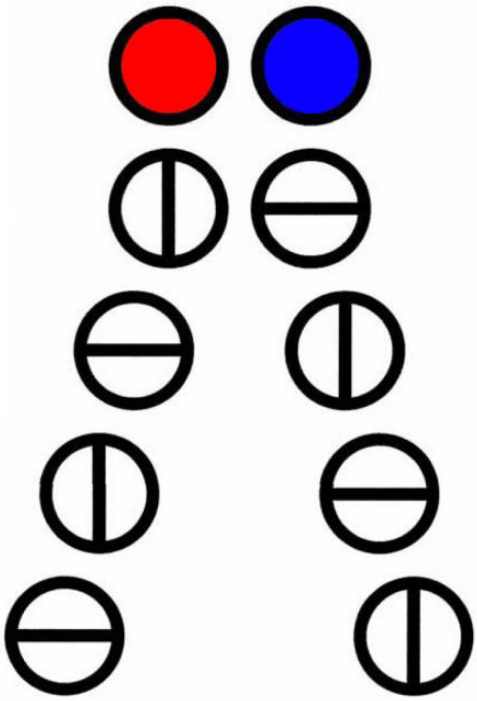
Now practice on the circles with the vertical and horizontal lines. Do one row at a time. The circles merge, lines form a cross +. Practice with the chart at various distances. Practice on each row only for 1-2 seconds and only once. Relax, no strain. If any strain, tension is felt; do only 1 row or none. Circles close together on the top row are easiest to merge.

Do not do this as a eye exercise. Do it only once. Bates Teachers do not advise this test. They state; AVOID auto-stereograms. It can impair the eyes' convergence, divergence, fusion if done as a repeating eye exercise or if there is a imperfect fusion, movement, convergence, divergence or other imperfection in the eyes, visual system. See the other charts for more directions. A Bates Method Behavioral Optometrist's, Ophthalmologist's guidance is necessary for use & advanced use of the test; merging the circles below, and convergence, divergence practice by looking at the close pen before the chart and a pen, objects beyond the chart in the distance. A clear, see-through chart is used to look beyond it to the distance or a slot can be cut in the chart below each pair of circles. Look through the slot to the distance to merge circles. Eye doctors may apply other variations.



Looking at ^ the pen top. Left and right circles are merged into a 3rd circle in the middle. Thinking *blue* circle.

4 peripheral circles may appear when looking at the pen, depending on the distance the pen is from the eyes. As the pen moves; 2 of the 4 peripheral circles merge into 1 circle creating the image of 3 circles.



When the 3rd, 'middle image' of the circle is seen; It is a Artificial 3-D (Three Dimensional) image. It is a normal 3-D image produced by the brain, eyes, but it is not the correct way 3-D is seen when the eyes function natural; 'looking directly at the object, distance, placement the object is at, placing it in the central field, to see it clear.'

Maintaining the artificial 3-D image by staring into space before or beyond the distance the image is at, looking at the fused peripheral images strains, tenses, confuses the brain, visual system. It is not the normal function of the brain, eye muscles, eyes.

Placing a pen between, below the two circles and looking at, shifting on the pen while merging the two circles to produce the 3rd circle beyond the pen helps to prevent some of the strain, tension this test produces.

See picture on the <Left with the green pen placed in the middle of, below the red, blue circles.

Notice; when doing this eye test without looking at the pen; the eyes, (visual attention) is not truly placed, focused, fused directly on a object, distance the object is at. It is focused in space before or beyond the object (circles) to produce the 3-D illusion of the 3rd circle created by combining two circles from the left and right peripheral field. This is abnormal, against the Bates Method because it prevents normal fusion, central fixation, shifting, binocular vision directly on the object and distance the object is at. This results in: confusion, diffusion, eccentric fixation, tension, strain in the brain, eye muscles, eyes, double vision at close and far distances, strabismus and other visual disturbances due to disrupting the eyes, brain's function of convergence, divergence, binocular vision, fusion, left and right brain hemisphere function with the eyes, eye muscles.

NOTE; Using the pen to see the Artificial 3-D helps prevent some of the immobility, strain... this test causes. But; the pen also strains the visual system, can lower the vision. Reason; The circles are at eye level, but the pen is placed below the circles. This disrupts central-fixation (the central vision) because it causes the eyes to look at two different locations - at the same time; the circles at eye level and the pen below/ at the bottom of the circles. The eyes look down and place the central field (eyes' pupil level/direction) on the pen top. The circles are then seen above the pen with the eyes' *upper peripheral field*. Doing that, and looking at the 2 different distances the pen, circles are at (at the same time), and the 3 different circle images; 2 circles in the left, right peripheral field causing one circle *appearing* to be in the central field (created by the 2 peripheral merged circles) is *abnormal use of the eyes, vision*. It causes; eccentric fixation, diffusion, confusion, strain, tension in the brain, visual system, eyes, eye muscles and imbalances the brain hemispheres, impairs the brain and hemispheres' function with the eyes, eye muscles, retina...

A better placement for the pen is directly in front of, between the circles, in the central field. The circles and pen exactly at eye level. The pen blocks part view of the circles, but merging of the circles is visible.

Other Artificial 3-D charts and TRUE 3-D are in the PDF E-book; *Do It Yourself-Natural Eyesight Improvement.* Free on the website, and in Kindle, paperback.

A example of TRUE, SAFE, NATURAL 3-D is; Switching close, middle and far on the *Pens in a Row*, the *Bead String* or other objects placed in a straight line, in the central field. See chapters in this book.

Read the free PDF E-book; '*Do It Yourself - Natural Eyesight Improvement - Original and Modern Bates Method*' for directions on how to reduce the strength of eyeglass lenses 'wear weaker and weaker lenses' and permanently discontinue use of eyeglasses. Glasses are worn only if absolutely necessary for driving, safety at work... Not wearing eyeglasses is the fastest, easiest way to obtain perfect clear 20/20 and better vision at all distances, close and far.

AVOID EYEGLASSES, SURGERY AND DRUGS.
EYEGLASSES, SURGERY AND DRUGS CAUSE AND INCREASE EYE MUSCLE TENSION, MENTAL STRAIN, ABNORMAL EYE SHAPE, UNCLEAR VISION, CATARACTS AND ALL EYE PROBLEMS.

The Bates Method relaxes the eye muscles, returns them to normal function, coordination. If strengthening is needed it will happen automatically when the muscles function correct. Sometimes people misunderstand Natural Eyesight Improvement, they think the Bates Method consists of strict Eye Exercises. In the article on the right > the words strengthening, exercise are used. The Bates Method is not eye exercises. The Bates Method consists of relaxation of the mind, body, eye muscles, eyes and practicing 'imitating' correct relaxed function, use of the eyes-vision, 'the visual system'. Blinking is rapid but it is done soft, easy, frequent, same as a person with clear eyesight blinks. The lover looking at the photo will not stare, not strain the eyes if she-he shifts upon the picture while thinking happy thoughts.

Bring your mind out into the world, enjoy looking at things; investigate the type of wood a staircase banister is made of. It's color, design, age. Watch birds, bees in the garden. They move often. Follow their flight. This gets your mind off your eyes, off the clarity of vision. Note how the eyes move natural *on their own* when you do not try to control the eyes' movement, clarity; you just relax and enjoy looking at things. This is when you see most perfectly clear 'without effort'.

Imperfect Sight Can be Cured ***Without Glasses***
You Can Cure **Yourself**
You Can Cure **Others**

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. III SEPTEMBER, 1920 No. 3

Make Your Sight Worse
This is an excellent method of improving it

Experiences with Central Fixation
By M. H. Stuart, M.D.

How I Improved My Eyesight
By Pamela Speyer

Sleepiness and Eyestrain
By W. H. Bates, M.D.

Stories from the Clinic
By Emily C. Lierman

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
342 WEST 42nd STREET NEW YORK, N. Y.

Now Cross-Eyed Tommy Looks Straight At Future

EYES RIGHT for Caroline Gowdy as she performs eye muscle strengthening exercise. As the instructor (left) moves the the string fastened between two pencil-like tubes. Caroline follows it with her eyes. The exercises is designed to help the eyes co-ordinate.

By FRED ZAVATTERO
NEA Staff Correspondent

SEATTLE, Wash. —(NEA)—"Yah! Yah! Cross-eyed can't be on our side."

For 15 years Tommy suffered while his schoolmates poked fun at him for his crossed-eyes and thick-lensed glasses. But now Tommy has taken off his glasses. He doesn't need them. His eyes are straight.

To the boy and his parents, it's unbelievable. But to the men and women who developed the technique of correcting eye defects without the use of glasses, it's just a sample of what can be achieved by a new system for correcting vision.

A New York oculist, Dr. W. H. Bates, gave up his practice in the early part of this century to seek a new way of treating his patients. Eyeglasses, he knew, don't always help. Bates found another way.

After a number of experiments, Bates discovered that vision defects were often caused by the habitual imporper use of the eyes.

He also found that this improper usage was related to mental and emotional strain. By easing the strain and teaching the eyes to see in a relaxed way, a large percentage of his patients regained normal vision.

Since his death in 1931, the doctor's work has been carried on by the American Association for Eye Training, Inc., under the direction of Mrs. Clara Hackett.

Several methods have been developed for relaxing the eyes. "Palming," or covering the eyes with the palms of the hands at regular intervals, is restful. Blinking rapidly is helpful.

Exposing the eyes to the sun —"sunning"—has helped to correct eye ailments. "Dark glasses may give you Hollywood glamor, but they don't do the eyes any good," reports one instructor.

"Above all," eye trainers caution, "use your eyes and keep them in motion. The lover who stares for hours at the picture of his heart's desire may satify his soul, but he's ruining ihs eyes."

School children, who worry about their lessons, often develop nervous tension which creates eye strain. Once their worries are relieved, their vision improves.

In spite of active opposition from some groups, the Bates method is arousing interest and has chalked up some successes.

A 24-year-old woman who wore glases for 11 years now has normal vision without glasses. She has been training her eyes less than two months.

After six weeks' work, an eight-year-old girl, near-sighted and crossed-eyed, now has normal vision. Her schoolwork has improved along with her sight.

The best record in Seattle was achieved by a 63-year-old man who wore glasses for 50 years. With only light perception in one eye and only 25 per cent vision in the other when he started, he has gained almost normal sight in less than two years. His instructors think he will recover completely within another year.

Some Seattle schools use the Bates method to prevent eye tension and tatigue in their pupils. A large number of teachers have been able to give up wearing glasses.

Indiana Evening Gazette. Indiana, PN. 29 Apr 1950. Page 4.

2 - BATES METHOD HISTORY – TEACHERS, BOOKS, WEBSITES

IN HISTORICAL ORDER, YEARS 1800's, 1901 to PRESENT

The Best Natural Eyesight Improvement Training

Ophthalmologist William H. Bates

Emily C. Lierman, Bates

+THE CURE OF IMPERFECT SIGHT BY TREATMENT WITHOUT GLASSES (Perfect Sight Without Glasses), 1920-1940. 9 print editions. By Ophthalmologist William Horatio Bates, M.D., Eye, Ear, Nose and Throat. Authors name on book; W. H. Bates. Advertised in Better Eyesight Magazine Sept., 1919.

Dr. Bates wrote Medical Articles, invented operations, discovered adrenalin, began his experiments and started to cure patient's eyesight naturally in 1886. He published STRENGTHENING THE EYES - A New Course in Scientific Eye Training in 28 Lessons, a kit-book with Bernarr MacFadden, a Natural Health teacher, body builder in 1918. Dr. Bates worked in hospitals, colleges treating patients without eyeglasses, surgery, drugs. He cured other doctor's eyesight, taught them Ophthalmology and Natural Eyesight Improvement. This resulted in the head surgeon (Dr. Roosa, New York Post Graduate Hospital, Medical School) daring Dr. Bates to prove his statements about natural eye function are fact, then expelling Dr. Bates after Dr. Bates proved his discoveries are a fact and the natural practice is effective. (Read *Reason and Authority - Man Not a Reasoning Being* in the final chapter of Perfect Sight Without Glasses.)

Dr. Bates and the Bates Method survived. He was welcome in many hospitals, colleges as he continued to prove his method works. He opened his own office, clinic in New York City. Thousands of people were cured of unclear eyesight, cataract, glaucoma and other conditions. Often Dr. Bates and Emily, his assistant provided free-no charge for treatment clinic days. See his Better Eyesight Magazine for hundreds of documented natural eyesight cures.

***Perfect Sight Without Glasses* is Dr. Bates original, first book, it contains the complete, unedited antique edition. Treatments for blindness and other conditions. Some prints from 1920 to 1940 have a picture removed, new added, bit of text changed in the fine print section... and the printers, address are different. The 1940 final print of the book contains; a certificate, letter from T. K. Peters, Oglethorpe University, Ga., Oct., 18th, 1938 stating the book is *preserved in the Crypt of Civilization for future generations*. A small C eyechart with *Suggestions To Patients* and step by step directions *How To Demonstrate the Fundamental Principles of Treatment* are added by Emily A. Bates and an *Appreciation by Dr. Bates' Church Reverend, Dr. Rev. Daniel Poling*. Editions after 1940 have different titles, are not the complete version of Dr. Bates original book. Many of his natural treatments (The Sunglass, other Sunlight Treatments that can cure blindness, cataract...), his experiments and all pictures are removed.**

5 original editions combined in one book are free in PDF E-book on our website and preserved in paperback. All 9 editions will be combined. I found 8 editions as of Sept, 2014. Single editions will also be created in paperback.

+BETTER EYESIGHT (Better Eyesight Magazine) - A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES By Ophthalmologist William H. Bates. 1919 11 Years, July, 1919 to June, 1930. 132 Issues, 2400+ pages. Includes 'STORIES FROM THE CLINIC' By Emily C. Lierman, A. Bates. 123 True Stories of Dr. Bates' patient's, treatments. Better Eyesight Magazine describes how Dr. Bates and Emily Lierman/Bates and other teachers, doctors applied Natural Eyesight Improvement, the Bates Method to cure patients of unclear vision, 'myopia, farsight, presbyopia, astigmatism', crossed-wandering eyes, cataracts, glaucoma, blindness, conical cornea, cornea scars, retinitis pigmentosa and many other eye-vision problems, disease without use of eyeglasses, surgery, drugs. The true method, it's origin. They teach how they did it and how to do it yourself. This proves the Bates Method works, is safe and healthy.

Eye doctors, surgeons and the optical industry became angry, feared they would lose a lot of money as people were being cured naturally and did not need to purchase eyeglasses, surgery and drugs. The eye doctors, opticians tried to stop Dr. Bates from curing his patient's eyes-vision naturally, teaching Natural Eyesight Improvement to the public and certifying teachers. To date; year 2014+, eye doctors, businesses that prefer to sell; eyeglasses, contact lenses, eye drops, drugs, cornea lasik, cataract... eye surgery continue to hide Natural Eyesight Improvement, the Bates Method, to prevent the public from learning how to obtain clear eyesight and cure, prevent eye problems, disease naturally, *on their own*. Dr. Bates life history; http://cleareyesight-batesmethod.info/id110.html

Better Eyesight Magazine and all Dr. Bates, Clark Night's books listed on this page are free in 20PDF E-books at; http://cleareyesight-batesmethod.info/id148.html 'Print your own book'. Read, listen to Dr. Bates Better Eyesight Magazine website; http://www.cleareyesight.info/naturalvisionimprovementoriginalandmodernbatesmethod Magazines in Paperback or E-book in Original Antique Print and Modern Print in Color with 500 Pictures. See the website homepage navigation on the left for low cost paperback books, other doctors, teacher's books; copy/paste any book title from this page into the bookstores search bar. Teachers trained and certified directly by Dr. Bates are listed in his Better Eyesight Magazine, in this book's introduction and on the website.

+STORIES FROM THE CLINIC By Emily C. Lierman 1926

Doctor, patient experiences, natural treatments in Dr. Bates New York City Clinic, offices. Emily C. Lierman's eyesight was cured by Ophthalmologist William H. Bates. She then worked as Dr. Bates assistant in his Clinic in New York City, U.S.A. for many years. They married in 1928. Her name changed to Emily A. Bates.

Emily Lierman, Bates is known for her kind, gentle, understanding way of treating, teaching adults and children how to obtain clear eyesight and healthy eyes naturally, and for her devotion to Dr. Bates work. She continued teaching The Bates Method of Natural Eyesight Improvement after Dr. Bates passed away in 1931 and preserved his books, Better Eyesight Magazine. The book contains true stories of their patients, describes the natural treatments that Dr. Bates and Emily applied without use of eyeglasses, surgery, drugs to cure; Unclear Close and Distant Vision (Myopia, Farsight, Presbyopia), Astigmatism, Crossed, Wandering Eyes (Squint-Strabismus), Cataracts, Glaucoma, Cornea Ulcers, Scars, Blindness and other eye problems. A variety of patients, their eye-vision conditions were treated. Dr. Bates, Emily's patients became teachers, applied Natural Eyesight Improvement to cure many people in the United States and other countries. Children cured by Dr. Bates and Emily then cured their friends, parents, school teachers with the Bates Method. Emily's 'Stories From The Clinic' were originally published in 'Better Eyesight Magazine' by Ophthalmologist William H. Bates, Central Fixation Publishing Co., New York City, U.S.A.

The stories in her book contain a few different, additional sentences, descriptions. *Free on this website.*

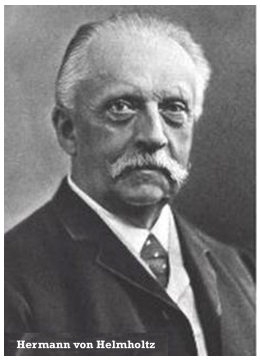
+THE BATES METHOD FOR BETTER EYESIGHT WITHOUT GLASSES By William H. Bates and Emily C. Lierman, A. Bates 1943 Emily A. Bates published the 1940 and 1943 editions of Dr. Bates book.

European version; GOOD SIGHT WITHOUT GLASSES

1943 and later editions are not the complete version of Dr. Bates original book. Blindness cures; looking into the sun with eyes open (the correct way, specific directions, time limit, eyes moving, blinking...), the sunglass and other original treatments, experiments and all pictures are removed from the book. (Fear of imprisonment, fines due to pressure from eye doctors, optical businesses trying to destroy Dr. Bates work, hide the truth.) Emily may have been reluctant to continue publishing Dr. Bates original book and its true title after Dr. Bates passed away in 1931 and Margaret Corbett, other Bates Method teachers were taken to court in the 1940's by dishonest eye doctors trying to suppress the Bates Method so they can continue selling eyeglasses, surgery, drugs. Right before Dr. Bates died in 1931 the dishonest eye surgeons... planned to take him to court, take away his medical license and stop him from teaching his natural method. Emily A. Bates' list of the basic practices '*Fundamental Principles of Treatment*' are placed at the end of the 1940, 1943 books. My two copies state; copyright; 1940, 1943 by Emily A. Bates. 1940 is the original, has extra pages. 1943 has a full-size Big C Eyechart. Page 53; picture of the human eye. 1968, 18th printing. Owl Book edition 1981. Other books are labeled by different titles. Some people alter, corrupt the book's method.

(Clearsight Publishing Co. has all of Emily's treatments included 'legally, public domain' from Dr. Bates Better Eyesight Magazine in our reproduction of Dr. Bates original 1920 to 1940 editions combined.)

Two of the Best Eye Doctors, Scientists That Studied the Human Eye, Lens, Accommodation and Refraction Of Light Rays;


Hermann von Helmholtz

FERDINAND VON ARLT
(1812-1887)

Distinguished Austrian ophthalmologist, Professor of Diseases of the Eye at Vienna, who believed for a time that accommodation was produced by an elongation of the visual axis, but finally accepted the conclusions of Cramer and Helmholtz.

Helmholtz

Helmholtz

Hermann Ludwig Ferdinand von Helmholtz, Great German Scientist, inventor, philosopher, physics, contributed to optics, electrodynamics, mathematics, physiology, meteorology, measured the speed of the nerve impulse, submitted a theory of color vision, the perception of musical tones. From 'Psychology and Life', 6th edition. Read the chapter on vision, page 264. Great description of eye movements, fixations, left and right brain hemisphere function with the eyes... He studied the eyes' lens and invented instruments to inspect the inside of the eye, light rays, retina, lens... 'the *ophthalmoscope and ophthalmometer*'. He stated his experiments developed the theory that the eyes lens changes shape to produce accommodation, clear close vision. Dr. Bates disagreed with this and produced experiments, stated that the eye changes shape during accommodation but the lens does not. He stated the eye lengthens from front to back during accommodation, 'for clear close vision'. Dr. Bates definitely proved as fact that the outer eye muscles, 'oblique and recti', when tense alter the eyes shape, the eyes refraction of light rays, pressure.., clarity of vision at close and far distances

causing; unclear vision, astigmatism, cataract, glaucoma, strabismus and other eye-vision conditions. When the mind, body and eye muscles relax, these conditions are reversed, cured. Ophthalmologist Ferdinand Von Arlt originally studied the theory that the eye accommodates by lengthening, 'like a camera'. Modern eye doctors state they have proved that the lens and eye change shape during accommodation. The eye lengthens a bit when the lens changes shape. So, Dr. Bates and Arlt, Helmholtz are right. Tension in any eye muscle; the outer oblique, recti and inner ciliary-lens, iris-pupil muscles and even the tear gland and eyelid-blinking muscles can affect eachother's function, the eyes function and the clarity of vision. Neck, shoulder and even back, body muscle tension, incorrect posture can affect the eye muscles and clarity of vision.

+STRENGTHENING THE EYES - A New Course in Scientific Eye Training in 28 Lessons By Bernarr A. Macfadden and William H. Bates, M.D. 1918, 1924, 1925. His first book;
+STRONG EYES - HOW WEAK EYES CAN BE STRENGTHENED AND SPECTACLES DISCARDED 1901.

Possibly the first person or one of the first people to write a book about Natural Eyesight Improvement. 1901 is a good book, has wonderful poetry.., but needed some improvement. Contains a few practices I do not recommend. In later years, MacFadden with the help of Dr. Bates wrote a new book with many changes, additions; The 1918, 1924-1925 book 'eyesight kit' editions of 'STRENGTHENING THE EYES' is a result of Bernarr MacFadden learning Ophthalmologist William H. Bates Method of Natural Eyesight Improvement, in person training from Dr. Bates. MacFadden published Physical Culture ; A fitness, natural health, food, body building magazine. In this magazine and other magazines, newspapers Dr. Bates and MacFadden advertised the Bates Method, their 'Strengthening the Eyes' Natural Eyesight Course consisting of training booklets, 28 lessons and an eyechart. This and Dr. Bates Medical Articles, work around 1886 started the Natural Eyesight (Vision) Improvement revolution. In later years MacFadden turned the kit into a book.

Dr. Bates name was on most 1918-1925 red cover kits as author with MacFadden. Later book editions were authored only by MacFadden. Did Dr. Bates want to change, improve some of the practices in the book? Or maybe he preferred to place all his attention on his projects; Better Eyesight Magazine, Perfect Sight Without Glasses, Medical Articles, Clinic work. Bates 1919-1920 book, magazines contain many new practices. *(Clearsight Publishing Co., www.cleareyesight-batesmethod.info has added the Original and Modern Bates Method training to MacFadden's book; changed, corrected some practices, treatments and added new practices while maintaining the original text, pictures, practices 'entire book'.)*

MacFadden's practice of looking at 'shifting on' small parts of a close object (pencil), then looking beyond it to a far object on the horizon; looking at the far object's small parts, then back to the pencil, then far, then pencil... improves the eyesight quickly to 20/20 and clearer. Perfect convergence, divergence improve all eye-vision function. Bernarr MacFadden is one of the first Natural Health, Physical Fitness teachers. Sadly, he died in 1955 from a urinary tract infection after refusing standard medical doctor's treatment. Many people have improved their vision with the Bates Method. It is hidden by the medical community due to its success, competition; prevents need for glasses, surgery... The Bates Method works if the patient will learn and apply it. Many people prefer eyeglasses or surgery; a quick fix with no study, practice. Glasses, contacts, surgery are addictive, maintain and increase eye-vision problems, cause cataract, detached retina... With a little practice the Bates Method 'natural eye-vision function' becomes automatic and conscious practice is not needed.

+EL USO NATURAL DE LA VISION (THE NATURAL USE OF VISION) By Dr. Ramon Ruiz Arnau, M.D. 1924
Spanish - Berkley, CA Optometry Library; http://oskicat.berkeley.edu/search~S1?/cRE925+.R93+1924/cre++925+r93+1924/-3%2C-1%2C0%2CB/frameset&FF=cre++925+r93+1924&1%2C1%2C Also preserved in the Library of Congress.
Studied, successfully taught Dr. Bates Method. From Dr. Bates in Better Eyesight Magazine, Nov., 1924;

"This book should appeal to Spanish-speaking people, because it contains numerous demonstrations of the truth which make it possible to cure imperfect sight by treatment without glasses. In the magazine, "Better Eyesight," of May, 1920, is an article by Dr. Arnau with the title "My Headaches" in which he describes at length how he was cured of chronic headaches and imperfect sight by treatment without glasses. As a result of his cure he has become able to give relief to his patients. The author's most important contribution is his claim that the true use of the ciliary muscle is not to increase the curvature of the lens when the eye is focused for reading at the near point, but just the opposite: The ciliary muscle prevents any change of form in the curvature of the crystalline lens. He has written a great deal about mind strain as the real and only cause of defective eye-sight. He discusses the unconscious movements of the vegetative functions of the body, circulation, respiration and the constant mental shifting as entirely in accord with the new ideas of Einstein, Korbzyski and others. The Tachorthoscope was discovered by Dr. Arnau. It is an apparatus for the treatment of patients who are not benefited promptly by other methods.* (It shows that voluntary or artificial attention, as is with spontaneous attention, oscillates, needs alternate contractions and relaxations. Forcing one fixation causes fatigue, lowers the vision.., perfect perception. Constant voluntary muscle contraction creates spasms, results in many impaired body, mind... functions.) *He has also investigated the use of music by which some patients find an easy way to obtain a short swing through the auditory memory."

Here's another Spanish book on Scribd; Different author listed. EL MÉTODO NATURAL DEL OFTALMÓLOGO NORTE AMERICANO DOCTOR W. H. BATES J. de S'Agaró Como se recupera la VISIÓN NORMAL SIN GAFAS; http://www.scribd.com/doc/89556144/Vision-Sin-Gafas I have not read it entirely, can't read full Spanish.

+BETTER SIGHT WITHOUT GLASSES OR CONTACT LENSES By Harry Benjamin N. D. 1929
Also wrote a book on his experience with Myopia, books on Diet and Vegetarianism. Cured many people of defective sight. Describes how glasses impair the eyes natural accommodation, other functions. Good chapter on Mental Strain. Lot of pictures, easy to learn; the sway, swing, looking close and far to return natural accommodation, memory, imagination... Nutrition for the eyes. Very good book. Possibly trained with Dr. Bates.

+THE IMPROVEMENT OF SIGHT BY NATURAL METHODS - A Complete Treatise Upon the Newer Methods of Treating all Conditions of Imperfect Sight by Natural Means, and Obviating the Necessity for Glasses, Drugs, or Operations 1934 By Cecil S. Price

Trained by Ophthalmologist Bates. Captain of the Australian Army Medical Corps, Principal of the School of Eyesight Training (London). This is from Dr. Bates in Better Eyesight Magazine, Jan., and Mar., 1925;

"Capt. C. S. Price, of London, England, will visit Dr. Bates around the latter part of January. He is planning to discuss with Dr. Bates the best methods which are employed for the cure of imperfect sight without glasses. The spread of Dr. Bates' method in England is largely due to Capt. Price's enthusiasm and success in helping others. There are now two clinics, and a Better Eyesight League in England, all reporting favorable results. Capt. Price has been the guest of Dr. Bates for several weeks. Dr. Bates wishes to announce that he finds Captain Price thoroughly capable of curing imperfect sight by his methods."

+SIGHT WITHOUT GLASSES By Optometrist, Dr. Harold M. Peppard 1936

Worked with and was trained in The Bates Method by Ophthalmologist Bates. Continued Dr. Bates work in New York City with Dr. Bates' wife Emily A. Bates after Dr. Bates death in 1931.

Book has step by step Bates Method directions for various eye problems. The effect health, stress, diet, neck, shoulder tension and headaches... have on the eyes, vision. He states that imperfect, slow-stiff close distance eye convergence *sometimes* occurs as we age and is the cause of presbyopia, unclear reading vision. It is easily corrected. The Bates Method, long swing and reading fine, microscopic print is the natural cure. Glasses cause stiffness, impair convergence, accommodation.

After Dr. Bates passed away, the eye doctors that prefer to sell eyeglasses, eye surgery and drugs, to hide the Bates Method, Dr. Bates work and discoveries tried to destroy Dr. Bates books, Better Eyesight Magazines. Emily Lierman, A. Bates and others preserved Dr. Bates work. Dr. Peppard and other honest doctors helped to protect Emily during this time and preserve Dr. Bates Original unedited book *'Perfect Sight Without Glasses'*, His *Medical Articles* and *132 Monthly Better Eyesight Magazine Issues*. See picture on the right > Dr. Monroe J. Hirsch preserves Dr. Bates magazines in a medical college library. (Movies, books Dr. Bates and Emily stated they created and were in process of creating are 'missing'.)

THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA

GIVEN WITH LOVE TO THE
OPTOMETRY LIBRARY
BY
MONROE J. HIRSCH, O.D., Ph.D.

+USE YOUR OWN EYES 1937

+NORMAL SIGHT WITHOUT GLASSES By Dr. William B. MacCracken, M.D. 1945

Trained by Dr. Bates. Very successful in his medial practice curing his patient's eyesight with the Bates Method. A blind student I work with has success with this doctor's book. From the book;

In many cases it is quite practicable to teach a patient who is having trouble with eyesight how to correct the abnormal function and regain good normal vision. There are different techniques, or procedures, in the method originated by Dr. Bates. They are all very simple, and they are varied so that they are adaptable to every kind of condition, and temperament and opportunity. In this book all of these practices will be described so that it will be possible to learn definitely from the text how to carry them out.

Dr. MacCracken's books are free to download on this website.

+SEEING WITHOUT GLASSES By Dr. Emery C. Ingham 1941 Dr. Ingham was trained in the Bates Method of Natural Eyesight Improvement by her mother, Doctor Clara Ingham who was trained in person by Ophthalmologist Bates, the founder of the Bates Method of Natural Eyesight Improvement. Both had clear eyesight their entire life. She is mentioned in Dr. Bates monthly magazine as a qualified teacher and she posted in the magazine;

By Dr. Bates; *Dr. Ingham, who also practices by Dr. Bates' method, is going back to Oregon. She will have access to the orphanage, and expects to start the system there free of charge. Dr. Ingham is a true member of the League. She not only gives her time, but her valuable experience in curing defective eyesight. She is most enthusiastic and we hope to hear very favorable results of her work in Oregon, and that a BETTER EYESIGHT LEAGUE is established there.*
Perfect Book! Video; https://www.youtube.com/watch?v=ELLV_aHBoME&list=UU8f8jhrxbwrHc-4v0fz7qcQ

+THE ART OF SEEING By Aldous Huxley 1942 Almost blind, he learned the Bates Method, was trained by Margaret Corbett and improved his eyesight, could see without glasses, prevented the full, permanent blindness that his eye doctors stated would definitely occur. Sunlight and palming were two of his favorite practices. Famous writer *'Brave New World'* and other books. Read his experience in Margaret Corbett's story below. The easy directions, practices in his book helped many people achieve clear eyesight. My first Bates Teacher. Corrected my eyesight, removed myopia in high school at age 17 and presbyopia at age 40. Now age 57, 2014 still see clear.

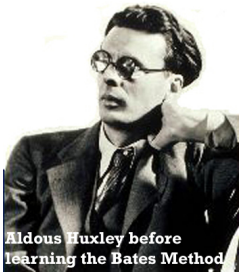
+EYES - THEIR USE AND ABUSE - How to Improve Defective Sight 1948 By Ethel Beswick Worked with Cecil S. Price and other teachers, studied Dr. Bates work. Nice short book, straight to the subject, contains the basic training, variety of information.

+HOW TO IMPROVE YOUR SIGHT - SIMPLE DAILY DRILLS IN RELAXATION (How to Improve Your Eyes) 1938 +HELP YOURSELF TO BETTER SIGHT 1949 +A QUICK GUIDE TO BETTER VISION; HOW TO HAVE GOOD EYESIGHT WITHOUT GLASSES By Margaret Corbett 1957

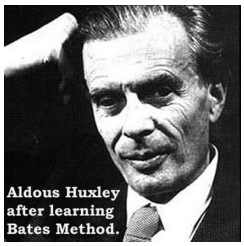
Margaret Corbett

Margaret Corbett is a Natural Eyesight Improvement teacher that worked with and was trained as a Bates teacher by Dr. Bates. She cured famous writer Aldous Huxley's eyesight, saved him from blindness. She improved the eyesight of many people, including pilots and people of various professions in the military, stars in Hollywood, Los Angeles, CA, USA.

In the 1940's, California; eye doctors and people in the optical-medical profession tried to stop Margaret Corbett and her assistant from teaching the public how to improve their eyesight naturally and stop use of eyeglasses. They accused her of practicing optometry without a license. They brought her and others to court a few times. Aldous Huxley and other cured Bates Method graduates were witnesses, testified for Margaret Corbett. Huxley proved that she improved his eyesight, he sees clear without glasses. Many people proved she cured them of cataract, near blindness and other eye-vision conditions, proved they had healthy retinas due to Bates' sunlight practice and obtained clear eyesight, freedom from eyeglasses. She won the 2 cases brought against her and later improved the eyesight of more people that were in the courtroom that day and worldwide. Other teachers won similar cases.


Aldous Huxley before learning the Bates Method

She was accused of violating the Medical Practice Act of CA for treating the eyes without a license. Mrs. Corbett explained in court that she was not practicing optometry or ophthalmology, is not acting as a doctor. That she is only an instructor of eyesight training. After she won the cases; the optometrists and ophthalmologists fought back by proposing a bill in the CA State Legislature to cause eyesight education to be illegal without an optometry... or medical license. The bill was defeated. New York succeeded in passing bills. Emily A. Bates, in N.Y. was affected by this abuse. The bills were eventually discontinued.


Aldous Huxley after learning Bates Method.

Huxley wrote the book; 'The Art of Seeing' in 1942 to describe the Bates Method and how his eyesight was cured. See his pictures on the right > ; top picture - strong, thick eyeglasses, unclear eyesight, near blindness before Natural Eyesight Improvement. Bottom picture - without eyeglasses, he has clear eyesight after his eyes-sight was cured by the Bates Method.

Critics state that later in life, Huxley was giving a speech and could not read part of a page without using a magnifier glass. People must realize that it is normal for the clarity of vision to fluctuate and especially when under pressure, a bit nervous giving a speech while knowing 'certain people' will be working against him, hoping his vision won't be perfect. Aldous Huxley had a major eye problem, was almost completely blind before treatment from Margaret Corbett. Age 16; attack of keratitis punctate, had opacities on the cornea blocking his vision, hyperopia, astigmatism. He wore very strong glasses for years and used a powerful magnifying glass to read. These things further impaired his vision. The Bates Method helped correct this. His eye injuries were not 100% cured but after the Bates Method he could see well. Due to the injuries he used a magnifier occasionally, mainly to see in dim light. Read Aldous wife's book for facts; his eyesight and the Bates Method; This Timeless Moment; A Personal View of Aldous Huxley by Laura Archera Huxley. *Margaret Corbett published other books.*

For many years, since eyeglasses were invented and sold to the public, eye doctors and optical businesses that prefer to hide the truth about Natural Eyesight Improvement and to prescribe/sell eyeglasses, eye surgery and drugs have tried to stop true Bates Method teachers from teaching the public how to cure unclear eyesight and other eye problems naturally without glasses, surgery and drugs. Bates teachers are often threatened with lawsuits, fines, imprisonment by organized eye doctors, surgeons. Eyeglasses are addictive, lead to prescriptions for stronger and stronger lenses, cause and increase; mental strain, eye muscle tension, eyestrain, vision impairment, abnormal eye, cornea, lens shape, tension on and inside the eye, cornea, lens, retina, optic nerve, eye muscle nerves, capillaries and all parts of the eye, increase eye pressure resulting in; unclear eyesight, astigmatism, crossed/wandering eyes, cataracts, detached retina, broken retina blood vessels, macula degeneration, glaucoma and other eye problems. Eye doctors prescribe laser and other cornea surgeries which are very harmful to the eyes and result in unclear day and night vision, blindness, pain, light streaks, halos, impaired light tolerance and other eye-vision problems. Lifelong sales of eye drops, other treatments, more destructive surgery and eyeglasses after cornea surgery profit the doctors and drug companies. (Some honest eye doctors are teaching the Bates Method.) Natural Eyesight Improvement improves the clarity of eyesight and health of the eyes without side effects.

+RELAX AND SEE; A DAILY GUIDE TO BETTER VISION By Clara A. Hackett 1955 Great Natural Vision Improvement teacher. One of the first Bates Method Teachers. She placed some of her training in audio. I heard it once. Can't find a copy. May have trained with Dr. Bates, Margaret Corbett and other Bates teachers.

+YOUR INNATE POWER 1967 By Olive Lyle Brown Very interesting, uplifting book. Combines methods of Dr. Roger Vittoz, F. Matthias Alexander, Dr. William H. Bates and others. Healthy Mind/Body technique, healing on all levels. Shows how to think, control thoughts a certain 'correct' way to improve function, health of mind, body and spirit. Positive effect on the eyesight. These old techniques are different, very effective from their original creator.

Janet Goodrich
Natural Vision Improvement

+NATURAL VISION IMPROVEMENT By Janet Goodrich 1985
+HELP YOUR CHILD TO PERFECT EYESIGHT WITHOUT GLASSES By Janet Goodrich 1996
Famous Natural Vision Improvement Teacher. Variety of Original and Modern Bates Method practices. Reichian Therapy. Free videos, audios. Covers all aspects of Natural Vision practice. Wrote other books. Thomas Quackenbush was trained, certified to be a Natural Vision Teacher by Janet Goodrich. www.janetgoodrichmethod.com Janet passed away in 1999. Worked as a teacher, author; 1970 -1999.

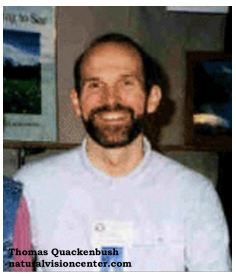
CARINA GOODRICH (Janet Goodrich's daughter) now runs the school and published a book;
+THE PRACTICAL GUIDE TO NATURAL VISION IMPROVEMENT 2010
Original and Modern Natural Vision Improvement. She has a lifetime of experience learning and teaching this method with her mom and family. Very good book! I do not use the artificial 3-D fusion *'Merging Circles'*... in the Goodrich books. Prefer it to be applied by an eye doctor. (also called Auto-Streograms.) It's only for an Optometrist, Ophthalmologist to apply a specific way for each individual case if necessary to treat strabismus. The Bates Method alone can correct crossed, wandering eyes without the artificial 3-D. The Goodrich books, school also has natural 3-D practices.
Read more on the following pages.

+HEALTH AND LIGHT By John N. Ott 1973 One of the first to study sunlight and it's benefit to life, health, eyesight, sleep, brain function. With his experiments he proved the healthy effects sunlight has on the body, brain, eyes and eyesight. Dr. Bates observed and proved many times that lack of sunlight causes unclear vision, cataracts, many eye diseases and blindness. The eyes must have full spectrum sunlight, no eyeglasses, to remain healthy and see clear.

+TAKE OFF YOUR GLASSES AND SEE - A Mind/Body Approach to Expanding Your Eyesight and Insight
+LIGHT; MEDICINE OF THE FUTURE By Jacob Liberman, Optometrist 1995 1991 Liberman and Ott teach the subject of light perfect! Experiments, directions included. Indoor full spectrum lightbulbs improve health, eyesight.

+EYE EXERCISE CARD - DO IT YOURSELF - NATURAL EYESIGHT IMPROVEMENT 1996, 1999, 2007, 2008
Copyrights, 4 books Ophthalmologist William H. Bates books, magazines and books by Clark Night preserved in paperback and PDF. Click #1, my name, then #1 to see books; http://cocatalog.loc.gov/cgi-bin/Pwebrecon.cgi?Search_Arg=EYE+EXERCISE+CARD&Search_Code=TALL&PID=mu2dCN42gFzP8kromYRd_blKVH&SEQ=20131103082801&CNT=25&HIST=1
+DO IT YOURSELF - NATURAL EYESIGHT IMPROVEMENT - Original and Modern Bates Method With Better Eyesight Magazine By Ophthalmologist William H. Bates
+BETTER EYESIGHT MAGAZINES BY OPHTHALMOLOGIST WILLIAM H. BATES by Clark Night, (Mary Iva Oliver), Clearsight Publishing Co., www.cleareyesight-batesmethod.info Books authored, assembled by owner of the website. We also preserve Dr. Bates, Emily C. Lierman, A. Bates books, Medical Articles and 132 Better Eyesight Magazine issues in text with 500 pictures and in the original antique print. They are public domain. Other books copyrighted with a 'poor mans' old fashioned copyright, self and professionally published.

+RELEARNING TO SEE - IMPROVE YOUR EYESIGHT NATURALLY! 1997
By Thomas R. Quackenbush
+BETTER EYESIGHT; THE COMPLETE MAGAZINES OF WILLIAM H. BATES 2001 Edited By Thomas R. Quackenbush www.naturalvisioncenter.com


Thomas Quackenbush
naturalvisioncenter.com

Thomas Quackenbush is an Original and Modern Bates Method, Natural Vision Improvement teacher. He is the first person, *the pioneer* (after Dr. Bates) that restored Dr. Bates Better Eyesight Magazine, preserved 11 years, 132 issues into one book. Tom's book, the magazines brought Dr. Bates work, the entire Bates Method, true Natural Vision Improvement to the modern public.
Tom is the first modern teacher that has not hidden Dr. Bates Better Eyesight Magazine, books. Many teachers before him took full credit for Ophthalmologist Bates work and hid Dr. Bates magazines, books so the public could not learn for free, have complete training. This true source of the Bates Method was and still is hidden because; it is simple, easy and people do not have to pay money to learn, apply and teach it. It's free in libraries in the U.S., Europe. Mr. Quackenbush's books also enable people that are low income, cannot travel to have access to the best, complete and honest priced Natural Vision Improvement Training.
Tom is one of my 1st Natural Vision Improvement Teachers. I obtained clearer than 20/20 eyesight at close and far distances as a result of taking a natural vision course from him at his school when he taught in San Francisco, California. I studied his books, the original Better Eyesight Magazines and learned all practices of the TRUE Original and the Modern Bates Method. Resulted in seeing the small bottom 10 eyechart line and smaller lines at 20 to 40 feet! My ability to relax, state of mind, self-esteem, emotions, intelligent and creative thinking improved. I quit a dangerous job at a hotel in South San Francisco, CA, quit drinking too much beer and found an honest doctor that cured a neck injury/dizziness after insights about natural alternative medicine, therapy from taking Thomas Quackenbush's class.
See Tom's website for free Natural Vision Improvement information, nutrition... links. Download the *Tom Q Radio Talk Shows* on the 'Healthy Vision Program' for free Bates Method, Natural Vision discussion by Thomas Quackenbush and an Ophthalmologist who is also a graduate of Tom's school. Click; NVCRadio1.mp3 and NVCRadio2.mp3 .
See his link to the FDA for warnings about vision impairment, blindness caused by laser and other cornea surgery. See pictures of his school, the teacher and students in action! http://www.naturalvisioncenter.com/CoursesSeminars.html

Tom trained thousands of students and certified hundreds of students to be teachers. If you can't travel to the Netherlands to visit Tom's school; contact him for the best teachers in your area. See my video review of his book, palming and other things I learned in his school; http://www.youtube.com/watch?v=Wy7666JJBO0 His books are free in public libraries.

RESTORING YOUR EYESIGHT - A TAOIST APPROACH By Doug Marsh, Foreword By Thomas R. Quackenbush 2006
Excellent Natural Vision training and in depth information about how the mind, emotions, thoughts... influence eyesight. Describes how eyeglasses injure the eyes, vision; how they are most always prescribed too strong and incorrect leading to fast impairment of the vision and eyes' health causing addiction to stronger and stronger eyeglass lenses. One example; Abnormal lighting in the exam room and eye test machine ups the prescription; its too strong. Mr. Marsh attended Thomas Quackenbush's school, studied his books and other teacher's books, training. I learned a lot from this book.

BOOKS TEACHING LEFT AND RIGHT BRAIN HEMISPHERE ACTIVATION AND INTEGRATION
For equal, perfect clear eyesight in the left and right eyes at all distances (close, middle, far) and improvement of all brain functions with the visual system and perfect function of eye muscles. (This advanced study, practice started in the 1960's.) ;

+PERSONALIZED WHOLE BRAIN INTEGRATION 1985 By Paul E. Dennison and Gail E. Hargrove
+BRAIN GYM By Paul E. Dennison and Gail E. Dennison http://www.braingym.com http://www.braingym.org
+SWITCHING ON By Paul E. Dennison (They have more books)
+DRAWING ON THE RIGHT SIDE OF THE BRAIN 1979, 1989, 1999 By Betty Edwards
Left and right brain hemisphere activation and integration for equally clear eyesight in the left and right eyes at all distances close, middle and far. Awakens, improves all brain functions and areas of the brain not always used in this modern time. Improves artistic skills, creativity, memory, imagination, math, science, sports performance, emotions, all skills-functions of the brain, brain hemispheres, visual cortex, body and many other functions. The exercises, methods in these 4 books also help correct unclear vision, astigmatism, crossed-wandering eyes, amblyopia and other eye, eyesight problems. As the brain, body function, relaxation improves, this automatically improves the eyesight.

+JOURNEYS OUT OF THE BODY and FAR JOURNEYS, ULTIMATE JOURNEY 1971+
By Robert A. Monroe Left and right brain hemisphere activation, integration, synchronization, deep relaxation into the alpha, theta, delta brain wave states. Improves memory, imagination, color visualization, energy strengthening and control, freedom from negative emotions, thought patterns. Spiritual growth, travel and other practices. All improve the eyesight! I like his Discovery Wave 1, 6 DVDs. I have 6 WAVE packages with 6 training level DVDs in each and his Hemi Sync DVDs. Great! Prepare to GROW! http://www.monroeinstitute.org Also see the book; Captain of My Ship, Master of My Soul BY F. Holmes Atwater, (Skip Atwater) and Joseph McMoneagle Military training in remote viewing 'a type of astral projection' for protection of the United States and Allies. I have experienced Astral 'Sprit' Travel and sprit-body *protection* from using the original method Robert Monroe and his partners created during his lifetime. Like it! Check out the colored energy, energy bar tool, balloon!

PSYCHO-CYBERNETICS, A New Way to Get More Living Out of Life 1967 By Maxwell Maltz M.D., F.I.C.S.
Plastic surgeon notices; after many patients' facial and other abnormalities are corrected by surgery, the patient still acts shy, their self-image is low, they continue to have problems achieving success and confidence. Dr. Maltz studies this and develops a method to control the brain, thoughts, emotions and release, increase your inner brain... power, achieve your goals. This method really works! A bit like self-hypnosis but different. Changed my life. My school grades improved, I left a destructive gang. Mind never stopped growing after learning this method. Also has a positive spiritual effect.

+THE EFT MANUAL - Emotional Freedom Techniques 2008 By Gary and Tina Craig Similar to Acupressure, Karate energy control. Aligns, corrects and strengthens the body's energy 'chi' and other energies. When energy blocks are removed, energy flows correct and negative emotions, trauma... is removed from the mind/brain. Mental and physical health improves. Helps military persons cure post-traumatic stress, anxiety-panic attack disorder (PTSD). Works for removing mental, emotional blocks that cause unclear eyesight. http://www.emofree.com/
Definitely see Magnus Tapping; http://www.youtube.com/watch?v=6i33V2EcV1Y Free booklet and chart.
Free book on this website, scroll down the page; http://cleareyesight-batesmethod.info/id27.html

THE MIDWEST CENTER for Stress and Anxiety By Lucinda Bassett http://www.midwestcenter.com
I like this teacher, have her course, tapes and books. She gave the course to me free. Over $300.00 value. She does that a lot. On many TV talk shows providing free training, people cured of extreme fear. A great and very good hearted natural drug free anxiety, depression, stress cures teacher, motivational speaker. Rational Emotive, Cognitive-Behavior Therapy.

THE SMALL BOOK 1989 and RATIONAL RECOVERY 1996 By Jack Trimpey and Albert Ellis Ph. D.
Natural alternative to Alcoholics Anonymous and other often ineffective, destructive *phony* psychology, psychiatry and religious methods. Rational Recovery, 'RR', Rational Emotive & Cognitive-Behavior Therapy puts YOU in control, power over your own mind, emotions, health and life. Freedom from dependence upon others and use, abuse by others.

HEALING BACK PAIN - The Mind-Body Connection John E. Sarno, M.D 1979+ Many books, natural pain... cures.

+The ALEXANDER TECHNIQUE, Yoga, Tai Chi, Qi Gong, Dance, Physical Therapy and other methods to correct the posture, movement, balance, coordination, function of the body with the eyes and eyesight; brings clear eyesight, improved hearing and other health benefits. Incorrect posture-movement causes tension, pressure, pulling of the vertebrae, muscles in the body, back and especially the neck, shoulders and head. This causes tension, pressure and pulling on the spine, spinal cord, brainstem, nerves, blood, lymph vessels in the spine, body, neck, and those that travel to the head, brain, ears, sinus.., eyes, retina, eye muscles. This disrupts function of the eyes, eye muscles, retina, lens, hearing, balance and even the brain and optic nerve. This results in unclear eyesight, impaired eye health and impairs coordinated, relaxed movement of the head, body with the eyes and a relaxed mobile neck. Correct, relaxed eye movement (shifting, convergence, divergence...) is restricted, stiff and unbalanced. Correct posture, movement, relaxation, good diet returns the body, mind/brain, eyes and eye muscles to normal health and function resulting in clear eyesight. I prefer Physical Therapy, Movement, Tai Chi and other natural movements, postures like the Alexander Technique invented by Frederick Matthias Alexander. Dr. Bates likes these methods, doctors. Three teacher's books on movement, the mind;

+ THE ALEXANDER TECHNIQUE: THE ESSENTIAL WRITINGS OF Frederick Matthias Alexander.
Also known by F. M. Alexander.
+ Man's Supreme Inheritance: Conscious Guidance and Control in Relation to Human Evolution
+ Constructive Conscious Control of the Individual (Man's Supreme Inheritance, V. 2)
+ The Use of the Self (He has other books)

THE FELDENKRAIS METHOD By Moshé Feldenkrais;
+ Awareness Through Movement: Health Exercises for Personal Growth, to Improve Your Posture, Vision, Imagination, and Personal Awareness
+ The Potent Self: A Study of Spontaneity and Compulsion
+ Body Awareness as Healing Therapy: The Case of Nora (He has other books)

DR. ROGER VITTOZ;
+ Treatment of neurasthenia by teaching of brain control (1911)
+ Treatment of neurasthenia by means of brain control (1913)
+ Les confréries de Lausanne au Moyen Âge

Be sure to obtain THEIR books. Not new ones created by different teachers that alter or impersonate the method. A few originals are free on GoogleBooks. Public domain books are on the website e-books page and the GuestPage; http://naturaleyesightimprovement-batesmethod.com/GuestPage/forumdisplay.php?fid=15

BOOKS TEACHING HOW THE BODY, BRAIN and EYES CONNECT, WORK TOGETHER; How the body, neck muscles, nerves, circulation affect, connect to the head, brain, certain parts, functions of the brain, eyes, ears-hearing, sinus and other systems. Some teachers combine training of the Alexander Method... with other movement... methods. Some teachers are very good but others impersonate the original teachers, authors and teach incorrect. Choose carefully. I have used two spine, neck alignment methods 'without touching, twisting... my neck, spine'. They are safe alternatives to the risky, often dangerous method of chiropractic. Also used various physical therapy/movement methods, some yoga. I prefer to stay with the original books by Frederick Matthias Alexander and other safe methods. One popular eye-body teacher is strange; he sells unnatural methods such as pinhole glasses without listing the side effects. Much of his training seems to be 'made up', missing parts, not teaching the true connection of the body, nerves, muscles with the eyes and brain.

I prefer study of ophthalmology, nervous, circulatory, lymph, energy systems, muscles, massage, myofascial release (to relax contracted muscles, muscle knots, improve blood, lymph flow, and improve the muscle stretch reflex), acupressure and EFT. The spiritual, energy bodies also affect the health of the physical body and mind. Healing from a higher ^ level.

My experience with other teachers, good and bad; After years of study, application I disagree with some teacher's methods. I do not like most of a very popular high priced teacher's eyesight training. It's unnatural.

***Example; his blocking the eyes' central field with a black paper while using only the peripheral field to see with.* This is directly against Ophthalmologist Bates #1 practice of central-fixation and normal eye shifting 'movement'. Central-fixation, 'central vision' with normal, completely free eye shifting is essential for clear eyesight, healthy eyes. It cures glaucoma, cataract, macular degeneration, myopia, presbyopia, astigmatism and other eye-vision problems, keeps the central vision perfectly clear, better than 20/20 and the peripheral at its maximum normal function. Using the peripheral field to see the object of mental-visual attention (placing the object you want to see in the eyes peripheral field) causes glaucoma, cataract, macular degeneration, myopia, presbyopia, astigmatism and other eye-vision problems.**

The unnatural teacher's physical movement, yoga book made me realize there are alternative ways to heal a neck, spine injury that was caused by a dishonest chiropractor, but; he teaches some movements, muscle practices wrong. His specialty is supposed to be movement, muscle relaxation, posture but he teaches things that impair these functions. His 'palming' hands position is set with the hands straight up, side by side. This causes neck, head and shoulder tension (a main cause of unclear eyesight) and prevents brain hemisphere integration and activation of a major chi-charka energy center. The hands fingers must be crossed on the forehead for complete benefit. Try it and feel the difference; http://cleareyesight-batesmethod.info/id49.html One of his movements helped. I then searched for other movement, posture teachers. It took many different physical therapists, doctor's books, tools, methods and better movements to correct the neck, spine.

I don't like teachers that alter, corrupt Dr. Bates Method, make it unnatural in order to 'create their own method' so it attracts attention, can be mass marketed, sold for a very high price by the hour lessons, expensive seminars, endless $300.00 to $5000.00+ multi-level training, teach things that are harmful, hold back training and hide the true, easy Bates Method.
Be aware of this and avoid them. Many videos on the internet contain partial or incorrect training.

I now refuse to allow most doctors and even natural healers to touch my head, neck, spine... The chiropractors injured me on purpose. They did not like my webpage that describes how chiropractic has become corrupt, the main secret method they use to misalign the spine, back, hips, neck and head in order to sell endless treatments. I quit chiropractors after a few broke, dislocated my neck resulting in vertigo, ringing ears.., hospital visits. It is dangerous even when in the hands of a honest doctor. A bad masseuse pressed hard on my lower spine vertebrae and caused loss of feeling in my legs. A good masseuse and doctor corrected it and permanently cured back pain. The DORN Method by Thomas Zudrell is very good. I was advised not to use the tool on my 'broken' neck but the movements and other treatments are great and aligned my body naturally! I used the tool on some areas. http://www.dorn-method.com A few honest chiropractors taught me what the dishonest ones did to injure me, then taught me how to undo the injuries, misalignments without using the invasive bone, cartilage twisting forms of chiropractic. Read experiences here; http://cleareyesight-batesmethod.info/id150.htm

**Many teacher's prices for in person training and teacher certification are extremely high. I wish their greedy leader and others would give free training to the blind. Many blind, semi-blind people called him and a famous lady teacher and other high priced teachers; asked about this and they answered; "they do not help the blind or anyone for free". Just a seminar (but that's limited and mainly for advertisement). Semi-blind people also asked them; "If a person is going blind, is wearing strong -6, -8 and up glasses; should they stop wearing the glasses?" The teachers said NO, to keep wearing the glasses. This is very bad advice from these teachers, their leader and his staff. *Eyeglasses, especially strong prescriptions cause and increase detached retina, other retina problems, macula degeneration, cataract, glaucoma, myopia, presbyopia, astigmatism and most all eye-vision problems. Wearing the glasses can lead to retina detachment, blindness. Stopping the use of eyeglasses will help the retina heal and reverse blindness, other eye problems.* The dishonest teachers also told us they cannot say if the leader's method is Ophthalmologist Bates Method and said; "That question has to be asked to the leader in person only, you must travel to his location, pay $". But in his books, school he uses Dr. Bates' name. (*deceptive*)
This teacher alters, corrupts the Bates Method. He hides Dr. Bates true method, book and Better Eyesight Magazines.**

Many people with retina conditions, cataract, glaucoma, partially or full blind, advanced myopia, presbyopia, astigmatism, cross eye... have contacted me for free help after teachers have taken their money and not given complete training, then ask for more money, have given incorrect training or refused to give free training. It is cruel, inhuman to allow a person to go blind because they have little money. Many blind people are on disability, a limited income.

The blind people the popular teacher and other dishonest teachers reject can be helped. It's so easy to teach; just tell them to stop wearing the eyeglasses and give them the basic ten steps in our free e-books and Dr. Bates book, Better Eyesight Magazines. Many have regained their vision with these simple practices and some, including senior citizens on pensions are now teaching, curing others for free. A Mormon in Utah is integrating the Bates Method with the Bible and its natural health cures. His pure salt and water recipes greatly helped heal my neck and other injuries. *Glasses prevent normal eye, brain function. When glasses are removed the eyes activate Natural Eyesight Improvement automatically, 'on their own', the normal eye-visual system function.* Dishonest teachers hide this fact. They make the Bates Method seem long, complicated. Avoid these crooks charging hundreds, thousands of dollars for classes, more for teacher training. Note; if a teacher will not give the full training free to help a blind, partially blind person; they are dishonest. Avoid them.

The popular high priced teacher in San Francisco, CA states he was blind at birth, had cataracts, eye operations that caused lens injury and other eye problems. He states he cured his eyesight naturally, can now see clear to drive without glasses. His sight is not 20/20 clear but he achieved a lot if he is telling the truth about his past eye conditions and surgery results. I sometimes suspect he is hiding the full truth. He states the Bates Method cured his sight. But he teaches so much of it wrong. If it healed him; I think he is hiding the true, entire Bates Method which he used for himself, is refusing to fully reveal it to others. Or he only learned some of it. He invents his own stuff but it's not healthy and often not entirely effective. This enables him to sell more and more classes, holding back training until more money is paid and then he still hides complete training. Many bad teachers do this. I wish he would give due credit to Dr. Bates by telling the truth and preserving and providing Dr. Bates books, Better Eyesight Magazines which are free-public domain and contain complete Natural Eyesight Improvement training. Please teach the entire and true, correct method. I wish these teachers would stop altering, corrupting and hiding Dr. Bates Method in order to make it 'their own method' so they can charge a high price.

To all teachers that use these underhanded practices; PLEASE change your heart, stop destroying Dr. Bates great method. Teach it correct, for an honest price and set up free help for the blind and low vision people. At least give 1 day a week and 30 min. to 1 hour a day in person or Skype, Google, Phone. Give the gift of sight that heaven gave you to others.

All Dr. Bates books, magazines are free on our website. Distribute them free to the public when you train people. Don't lie to us, saying your method is superior to Dr. Bates. That's just an excuse to take people's money. Dr. Bates' method is true and free. *These bad guys also corrupt Dr. Bates method because dishonest eye doctors like this, will endorse it.*

If a teacher does not provide Ophthalmologist Bates Better Eyesight Magazines, books, Medical Articles and his wife Emily Lierman's book Stories From The Clinic; then the teacher is withholding the true, entire method.

Avoid teachers charging hundreds of dollars for Dr. Bates Better Eyesight Magazines, books. (The books, magazines are free in the Library Of Congress and some Optometry, Ophthalmology college libraries, on our website and GoogleBooks.)

There are other teachers, people that have preserved Dr. Bates work but they use Dr. Bates' name, books and magazines to sell eyeglasses, eye-cornea surgery and other unnatural treatments, products. I will not list them. Endorsing corrupt

behavior gives the person the idea that he, she has a license to continue these practices that harm the public's health, sight.

Even some teachers that are certified to teach by famous, excellent teachers become corrupt; after they get their diploma, they then alter the Bates method, make it unnatural, teach it wrong and speak against their teacher. They do this so the method they teach is different, they can call it 'their own' and charge a high price, direct students away from the honest teacher that certified them.

Best Teachers, Websites that Teach the True Bates Method and Provide Free and Honest Priced, High Quality Natural Eyesight Improvement, Books are;

www.NaturalVisionCenter.com - Thomas Quackenbush. Netherlands. My teacher. Professional, easy to learn complete course. Great books. He can refer people to teachers he has trained in the USA and other countries. See a real Natural Eyesight Improvement school in action! Natural health information, full spectrum lights, natural dentists, free introductory lectures and review classes. Colored light treatment. Includes strabismus correction. Totally holistic.

www.janetgoodrichmethod.com - Janet and Carina. Great! Years of experience teaching this method, one of the first original/modern teachers after Bates, Lierman, Corbett, Hackett, Peppard... Trained, certified Thomas Quackenbush. Free audios, videos. Books, kits, courses in person and home study. Janet and Carina have taught Natural Vision Improvement in their school for many years, helped people remove a variety of eye-vision problems. Also wrote books for correction of children's vision. Relaxation, positive thoughts, emotions, movement, games, brain hemisphere balancing, color and other techniques. Also provides treatment for strabismus, books for adults, and parents to help baby's and children's vision. I read all of the Goodrich books. Learned much from her books and website. They improved my teaching skills and keep my eyesight clear. Like the diverse practices, breathing and relaxation with positive thoughts, emotions. Janet cured her eye-vision conditions naturally; she had a very strong astigmatism prescription around -5 with -6 myopia and strabismus. Took her 2 ½ years to cure them all, see clear, pass her driving test without glasses.

(Some people experience quick cures, 1-2 days to 2-3 months, get perfect clarity when they remove their glasses and practice the Bates Method. It can take other people longer, but with practice they will achieve clear eyesight, permanent freedom from glasses. Depends upon the type, amount of tension in the visual system, eyes, eye muscles, the mind, body. Many years wearing glasses often disrupts the eyes movement and causes neck tension, advanced eye muscle tension... Coordinating and relaxing eye movement, improving, equalizing the clarity of sight in both eyes often brings fast results. Emotions have an effect. But, some who wore glasses for years get quick cures.)

(I don't use the 'Merging Circles'... Artificial 3-D Fusion, (Autostereograms-Magic Eyes pictures) in the Goodrich books. It's not the Bates Method. I prefer Dr. Bates Method of looking close and far and the Bead String, Phoria Swings... Janet, Carina also teach these and many more natural fusion practices. I prefer auto-stereograms to be applied only by an eye doctor. Done a certain way with direction by an optometrist, ophthalmologist 'Behavioral Optometry'; a specific type of Artificial 3-D might correct strabismus, (crossed, wandering eyes) but it can cause it if done wrong, trying to do it alone from a book... Read my and others experience with Artificial 3-D on the website, in my book and on the following pages. Try the Bates Method first. If you need the extras, contact an eye doctor. Find an expert in brain hemisphere and other brain area functions, its effect on relaxation, contraction, un-contraction of eye muscles and eye movement (shifting and looking close and far) and how mind-brain strain can cause eye muscle tension. Some eye doctors know this. The Goodrich school teaches this. Also start here; Edu-Kinesthetics, Whole Brain Learning. http://www.braingym.com I don't use pinhole glasses. The Goodrichs state that they are not natural and provide insight on their function. If needed; I prefer a different type pinhole glasses; one hole in the cardboard per eye so the fovea is not blocked when the eyes move. Move the head with the eyes. Use only if necessary. Not for driving... due to much of the peripheral field is blocked. Mainly for reading, quick glance at a object. (I am not familiar with all the other teachers, doctors linked on the Goodrich website. One is my teacher but I don't list him. They should also place Thomas Quackenbush, Janet's best on there!) Preserve all of Janet and Carina's books. Some of Janet's books (Natural Vision Improvement) might not be listed, so check used bookstores.

www.cleareyesight-batesmethod.info - By Clark Night, (Mary I. Oliver). Books by Ophthalmologist William H. Bates, Emily C. Lierman, A. Bates, other doctors, teachers. Dr. Bates Better Eyesight Magazine website, contains entire 132 issues - 11 years, 3x spell check, linked index and bookmarks navigation for every year, month. Translator, speaker reads aloud; http://www.cleareyesight-batesmethod.info/naturalvisionimprovementoriginalandmodernbatesmethod

YouTube Channel; https://www.youtube.com/user/ClarkClydeNight/videos?flow=grid&view=0

Original and modern teachers, books are listed in the bookstores; http://cleareyesight-batesmethod.info/id92.html
See my book, vitamin and product reviews on Amazon, the good and the bad teachers, authors; https://www.amazon.com/gp/pdp/profile/A9ARVDAUZEHDM?ie=UTF8&ref_=cm_aya_bb_pdp

There are more true Bates teachers that provide perfect training but have no school, books. They teach for free on-line. Their internet names are available on request. See the training certificates webpage and chapter in this book and here; http://cleareyesight-batesmethod.info/id60.html Teachers trained and certified directly by Dr. Bates posted in his Better Eyesight Magazine; PDF list , and here; http://cleareyesight-batesmethod.info/id4.html and below.

THERE ARE OTHER VERY GOOD TEACHERS in the USA and OTHER COUNTRIES; I do not list-endorse them if I have not taken their in person or home study course and/or studied their books. I have certificates, receipts from 5. Some teachers I have taken courses from, read their books are ½ to ¾ percent natural, they teach some very effective, healthy methods. Contact me for names and information, the beneficial methods they teach and the unnatural methods to avoid.

I have learned from more teachers but I don't list them because they have gone against their original training and are selling unnatural methods and products, cornea laser surgery and other harmful cornea, eye surgeries, dangerous eye-vision experimental retina and other surgery 'done on perfectly healthy eyes!', practices that impair the vision, eyes' movement and health. Some are advising all children, adults to wear glasses. That IS NOT the Bates Method.

Three teachers asked me to raise the price of my e-books and charge money for the videos; $175.00. They continually try to prevent free public access to the books, videos, Dr. Bates magazines. After I refused to raise the price and then set all the e-books for free download; the teachers have become abusive, lot of cruel messages in emails, phone, online forums.

Some Natural Vision teachers are organized into groups and post their members, prices on their website. Teachers must pay a yearly fee to be part of the group and listed. Note they limit free books, training unless you pay. I don't like some of the arrogant teachers that charge high prices and endorse lasik, contact lenses, magic eyes, pinhole glasses... They flip-flop on issues so they can please everyone 'customers', even if that means allowing unnatural methods that impair the eyesight. Teachers are creating laws to present to dishonest politicians, doctors to force the public to pay thousands of dollars to be certified as a teacher, by them. This will make it illegal to teach the public the Bates Method unless you are certified.

For true Natural Eyesight Improvement; I prefer to stay solely with Ophthalmologist Bates original training from his book 'Perfect Sight Without Glasses', his 'Better Eyesight Magazine' and *Thomas Quackenbush* (my favorite teacher) for student and teacher training, certification and a few other teachers that stay with the true, natural Bates Method. Modern training is also beneficial if it is natural. I am confident in Thomas Quackenbush's way of training. I can send people to him knowing they will be in a safe place. Tom provides all Dr. Bates Better Eyesight Magazines, his own book Relearning To See-Improve Your Eyesight Naturally, complete original and modern training for a honest price.

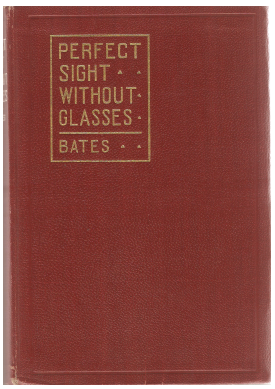
Other teachers I like are from the old days; Dr. Bates, Emily C. Lierman/Bates, Optometrist Harold M. Peppard, Dr. Emery C. Ingham and her mother - a doctor that was trained directly by Dr. Bates; Dr. Clara Ingham, C. S. Price, Margaret Corbett, Aldous Huxley, Clara Hackett, Dr. R. Ruiz Arnau, M.D. and other original teachers. Many that were trained in person by Dr. Bates are listed in his Better Eyesight Magazine. Search for their books. Also check members of Dr. Bates, Emily's *Better Eyesight League*. Started in the USA and grew in Europe, many countries. They preserved Dr. Bates method, books.

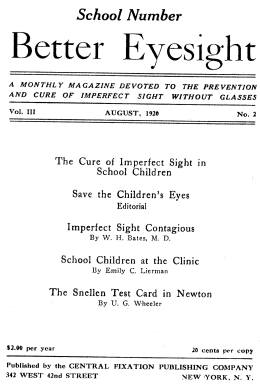
Better Eyesight and the League are listed in the Library Of Congress. Search for Dr. Bates *Better Eyesight* (with and without the word magazine) preserved in 14 Volumes. Maybe others are preserved. They have Dr. Bates book *Perfect Sight Without Glasses* 1st and 1940 editions, often titled *The Cure Of Imperfect Sight By Treatment Without Glasses*, Ruiz Arnau's book *El Uso Natural De La Vision* and Emily Lierman's book *Stories From The Clinic*. These are in original antique print. The Copyright office http://www.copyright.gov/ is different from the library of Congress. Search both; http://catalog.loc.gov/vwebv/holdingsInfo?searchId=6088&recCount=25&recPointer=2&bibId=8731874

A lot of school teachers, doctors and the military applied the method with success. I like teachers that describe the benefits of sunlight, color treatment, left and right brain hemisphere activation and integration, memory, imagination, relaxation, EFT, acupressure, massage, movement and other practices. I am studying more of the brain's function with the eyes to discover which areas of the brain, its actions, emotions and nerves, body muscles when tense can cause a specific eye muscle to be tight resulting in strabismus. There's other causes of strabismus. Left, right hemisphere, certain brain areas' balance, coordination, development is also a cause of crossed, wandering eyes and less clear vision in one eye, a distance.

Three of the Best Original Books;

Dr. William H. Bates Book and Magazine Emily C. Lierman Dr. Harold M. Peppard




School Number

Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. III AUGUST, 1920 No. 2

The Cure of Imperfect Sight in School Children

Save the Children's Eyes
Editorial

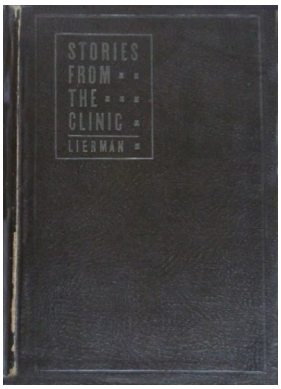
Imperfect Sight Contagious
By W. H. Bates, M. D.

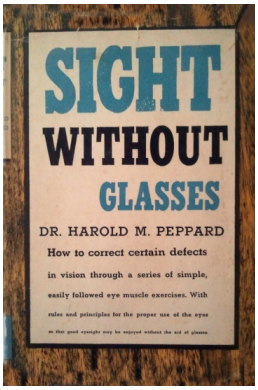
School Children at the Clinic
By Emily C. Lierman

The Snellen Test Card in Newton
By U. G. Wheeler

$2.00 per year 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
342 WEST 42nd STREET NEW YORK, N. Y.





Dr. Bates, Emily Lierman (A Bates) and Dr. Peppard worked together in New York City.

An Ophthalmologist (Eye, Ear, Nose and Throat), a Clinic Assistant-Teacher-Wife and Optometrist.

Warning; Choose a Natural Eyesight (Vision) Improvement Teacher, Books, Forum-Group Carefully! Investigate, Seek Truly Natural Original & Modern Bates Method Practices

Natural Eyesight Improvement has been in existence before Dr. Bates discovered it. Eye doctors and the public have used it in the 1800's and earlier. Sailors have used it for hundreds of years to navigate the sea by looking at the stars, moon, sun, planets in the sky, flow of ocean water, seeking other ships, landmarks, birds, fish migration, wind... and lighthouses. Hunters use it in ancient and modern times. It's also used when looking at close distances to create tools, shelter, inspect, sort food, draw and write to preserve heritage, education... Natural Eyesight Improvement is the normal function of the eyes and vision and brain, body function with the eyes, vision, 'the entire visual system'. It has been in existence since the creation of life, fish, animals, humans on this planet, the evolution-development of the eye and its function with light and dark, response to sunlight. The eye needs sunlight. Light, survival and movement created the eyes. I suspect Mother Natural threw in beauty, happiness and love. Sunlight maintains the eyes health and function. Trees, plants, microscopic life have a visual instinct, function. They react to light, are drawn to it and grow healthy due to sunlight.

Practice only the Bates Method. It is the true natural eyesight practice. The Bates Method teaches; relaxation of the mind, body, eye muscles, eyes, neck, shoulders and correct posture, movement, '*correct relaxed, natural vision habits* ' (imitating, inducing the normal function of the eyes, visual system; *shifting, central-fixation 'centralizing', memory, imagination, the opposite swing, blinking*...), tests for and perfects accommodation, convergence, un-accommodation, divergence, normal eye movement, body movement, left and right brain hemisphere activation and integration, color treatment, full spectrum sunlight (sunning), breathing and other natural activities. This produces 20/20 and clearer eyesight at all distances, close and far, day and night. The Bates method returns the eyes, vision, eye muscles, brain, body 'entire visual system' to normal function, maintaining clear eyesight automatically, on its own. After some practice, you don't need to consciously practice.

***The Bates Method does not consist of repetitive, forceful eye exercises, eye stretches*...**
The Bates Method relaxes and aligns the left and right eyes and eye muscles' movement, perfects their function. Switching, shifting on close and far objects (looking close and far) is 'kind of an exercise', but; it is done in a relaxed way, integrating Dr. Bates natural practices. It is very effective. See Switching and Shifting in the books and on the website.

Many eyesight improvement teachers claim to teach the Bates Method but they do not. They teach tension, effort inducing eye exercises and other unnatural treatments that cause mental strain, eyestrain, eye muscle tension, headaches, neck tension, unclear vision and other side effects. Forceful eye exercises are not natural and do not produce perfect and permanent clear eyesight. Eye or eye muscle injury can occur. Avoid teachers that refuse to give free help for advanced eye, vision conditions, blindness. A honest teacher will help you free of charge, has years of experience, written one or more books and provides their book and Dr. Bates Better Eyesight Magazines, books (complete training) for a honest, affordable price or free. Clear eyesight, healthy eyes is the birthright of ALL people. Dr. Bates always helped the blind, people needing eyesight improvement. He charged a low price and often trained free in his New York City Clinic, Offices.

I notice many teachers books teach tracing on objects (with or without the nosefeather) incorrectly; they have the person looking into space near but not on the object. This is diffusion, the opposite of central-fixation. Their pictures should show the nosefeather and 'central field' tracing line - - - - - directly ON the edge of the object you are tracing on. (or if looking at a part; on the edge of the part of the object.) Not off to the side into space. Example; looking at, tracing on the edge of the roof of a house. Trace on the edge. Do NOT trace on the sky away from the edge. Even when you use the big fluffy feather with no point on the end; the eyes' central field still moves on the edge of the object. 'Central-Fixation with Shifting'. See the Nosefeather Chapter in the book and on the website; http://cleareyesight-batesmethod.info/id56.html

Many Teachers Teach Things That are Unnatural, Wrong, Unsafe, are Not the True Original Bates Method;

Avoid teachers, websites, forums that teach, sell and/or refer to eye doctors that sell these harmful, unnatural methods; Lasik and other Cornea Eye Surgeries, use of Contact Lenses or Contact Lens Treatments to try to force the cornea/eye to change shape (Ortho-keratology, Ortho-k, Orthoculogy-Ortho C... This can injure, warp the cornea.), Eyeglasses, the harmful, unhealthy Plus Lens method. Also called Anti-Corrective-Stress Relieving Eyeglass method (It CAUSES stress, cataract, detached retina, astigmatism, eye muscle tension-dysfunction, eye and vision impairment... It consists of wearing stronger and stronger addictive plus or minus eyeglasses.), Bifocals, Progressive, no-line Bifocals, Trifocals.., Multi-Section and Mono-Vision Glasses, Sunglasses, Tinted/Colored Eyeglass Lenses, Autostereograms (Artificial 3-D Fusion Exercises, 3-Cups, Magic Eyes pictures... They can impair the eye muscles and eyes movement. Read more below.), Eye Muscle Surgery and Prisms for Crossed/Wandering Eyes (Strabismus), Eye-Eye Muscle Stretching (forcing the eyes to look, stay far left, right, up, down... and keeping the head in the opposite direction), Chiropractic and other unnatural methods.

Try to avoid implanted eyeglass myopia, farsight, presbyopia, astigmatism, bifocal... prescriptions in cataract surgery artificial lens replacement inside the eyes; it traps you with an eyeglass prescription that cannot be changed-removed without more surgery. More surgery has risks. A prescription in the eye is also addictive, increases vision impairment.

Read our entire Warnings, Directions PDF; http://cleareyesight-batesmethod.info/id110.html and in our book copyright.

Cornea laser surgery is similar; the lasik and other cornea surgeries place a prescription in the cornea. More cornea surgery to change it can result in cornea injury, blindness.

All these unnatural treatments, exercises, surgeries are not the Bates Method. They cause cornea injury, strabismus, impair eye muscle, eye function and movement, impair the clarity of vision, cause astigmatism, conical cornea, cataracts, glaucoma, detached retina, other eye-vision problems, impaired eye health and can result in blindness. They disrupt the brains function with the eyes-vision. I do not endorse, advise use of lasik, Artificial 3-D eye exercises, Plus Lens method, Contact Lenses, any unnatural method.

I disagree with the use of pinhole glasses and do not like teachers that sell them without warning of the side effects, without teaching healthy alternatives. Reason is posted on the website with video and PDF; http://cleareyesight-batesmethod.info/id114.html They block many natural eye-vision functions, can impair the vision, eyes health. The smaller the holes are in the glasses, the more they impair the visual system's function. The black areas constantly move over-block the eyes fovea-macula; the exact central field, the main area of the retina that produces clear eyesight.

I don't like teachers that sell colored eyewear 'color treatment glasses'. This imbalances the sun's natural healthy full light spectrum. It turns healthy sunlight into partial unhealthy light that imbalances the visual system, brain and body's function, chemical, hormone production. Sunglasses, colored, tinted and even plain glass, plastic block full spectrum sunlight. It impairs the eye, cornea, iris-pupil, lens and retina's function and health. True color therapy and colored light therapy does not involve wearing colored glasses. I prefer the original natural colored light treatment (without colored glasses) taught by Thomas Quackenbush and other natural teachers and plain good old sunlight which contains all colors.

See the real method here; http://cleareyesight-batesmethod.info/id59.html and here; http://cleareyesight-batesmethod.info/id37.html and in the paperback or e-book *Do it Yourself - Natural Eyesight Improvement* in the Sunlight and Color, Colored Light Treatment chapters; http://cleareyesight-batesmethod.info/id148.html

The website, books list all the unnatural methods, eyeglasses to avoid. Choose a Bates Method Behavioral Optometrist, Ophthalmologist only, if an eye doctor is needed. AVOID LASER... CORNEA SURGERY! No cornea surgery, no contact lenses, no plus lens method... Don't let them sway, sweet talk you. Some vision improvement teachers receive money 'kickbacks' from Optometrists, Ophthalmologists, Opticians, Chiropractors and other businesses by referring students to them through links on their website or in private chats, messages, in person. Avoid teachers that endorse contacting their 'affiliate' Behavioral Optometrists or other eye doctors, teachers that sell, teach the harmful practices listed here as 'to avoid'. Some eye doctors are ok, they teach the true Bates Method, but some are not natural, they prefer to sell eyeglasses, lasik and other eye surgery, contact lenses, the plus lens method, other unnatural practices. They want you to develop cataract so they can sell that expensive surgery. Know the side effects, risks of chiropractic. See the Chiropractic Warning page; http://cleareyesight-batesmethod.info/id26.html and http://cleareyesight-batesmethod.info/id150.htm

I do not allow people I am training to use contact lenses. They cause cornea, eye injury. Contact lenses are never a perfect fit for the cornea because the eye, cornea naturally change shape, often. This occurs more frequently as the eyes, cornea return to normal healthy shape with practice of Natural Eyesight Improvement. The contacts will not fit; they can easily scrape, injure, infect and scar the cornea. Contact lens cleaning solutions, eye drops get contaminated with bacteria, parasites. People have gone blind, lost their entire eye. Some teachers allow use of contact lenses, strong eyeglasses and other destructive methods because they want endorsement from eye doctors to help sell their training and books.

True Bates Method teachers, schools teach that only reduced *weaker and weaker* eyeglass lenses, usually 20/40 clarity (no contacts) are used and only temporarily, only *if needed* for driving, safety at work... as the vision is improving with practice of the Bates Method. Example; a person with -3.00 eyeglasses for myopia might try reducing to -2.50 or -2.00.
The eyechart will show 20/40 clarity with glasses on. Avoid glasses as much as possible. Keep practicing the Bates Method. Then continue to reduce until seeing clear without glasses. A person with +3.00 eyeglasses for presbyopia, farsight might reduce to +2.50 or +2.00 and continue to reduce. If the eyeglasses have uneven lens strength for the left, right eyes; try to get the strength even. See directions on the eyeglasses page; http://cleareyesight-batesmethod.info/id36.html and here;

If the eyeglasses have uneven prescription strength in the left and right eyeglass lenses;

It's best to change the lenses to equal strength; Don't use the stronger lens from the less clear vision eye's eyeglass lens because it will impair-lower the vision in the best-clearest vision eye. Use the *weakest eyeglass lens* from the best *clearest vision* eye and place it in both left and right eyeglass lens' frame. Then; reduce (weaken) both the left and right lenses strength equally. Ask your eye doctor for the number; maybe reduce 0.50 or 1.00 diopter. + or - depending on the prescription. Some people reduce more; 2.00. The clearest vision eye will see 20/40 clarity through its reduced eyeglass lens. (20 feet, #40 eyechart line.) The less clear vision eye will have the same strength eyeglass lens but it must catch up (improve its vision) to see 20/40 through its lens, see equally clear as the clearest vision eye. Note that the clearest vision eye will also be improving; so do some extra Bates Method practice with the less clear eye (without glasses). The goal is to get the clarity of vision improved and equal in the left and right eyes when not wearing glasses. When glasses are worn; the left and right eyeglass lenses are equal strength and the eyes see at an equal level through the reduced eyeglass lenses.

If the lenses are too weak or too strong; vision through the eyeglasses will be too blurry and cause strain, effort to see, headache. Find a balance where the glasses are weaker, not 20/20 clear but just right to see comfortable with no strain.

Uneven vision and uneven eyeglass lenses cause imbalance, tension in the visual system, brain, eyes, retinas, eye

muscles and slows vision improvement. Correcting this and removing bifocal, multi-section, astigmatism, prism, UV blocking, tinting, coating... from the eyeglass lenses enables easy, faster vision improvement, helps to reverse addiction to glasses and is not as harmful to the eye's health as glasses with multiple and strong prescriptions. No eyeglasses is the healthiest option. Glasses, level of clarity with and without glasses must be legal, safe for driving, work...

If you cannot get the left and right eyeglass lens strength equal; it's still important to reduce the strength of each lens. Getting the lenses equal and reduced is the best option, but some people have a large difference in the left, right eyes clarity so equalizing the eyeglass lenses may feel uncomfortable, at first, so they reduce only. An option is to buy 2 pair of glasses; the *equal and reduced* and *reduced only*. Then; wean your way into the equal and reduced as the vision improves.

When buying; reduce the equal and reduced strength glasses a bit more to fit improvement in the vision. All glasses need more reduction as the sight improves and the lenses become too strong. Before glasses give 20/20; its time to reduce.

No bifocal! If you need to reduce for far and close vision; buy two pair of glasses; one reduced for far. One reduced for close. Wear them around your neck on a string. One higher to prevent scratching. Use glasses as little as possible.

The P.D., centering and height of the left and right eyeglass lenses, exact fit of the frames, handles... must be placed in the prescription. Here's an optician that teaches about the P.D., height and other eyeglass settings that some online opticians don't tell you; https://www.youtube.com/watch?v=7Hc81FJTMaw&list=UURZDLUHjkNwkm-4QMrqyTNA

P.D., eyeglass lens, frames measurement; http://cleareyesight-batesmethod.info/id36.html

Most people can do without glasses when the vision is clear at 20/70 to 20/50. Some at 20/100 or more unclear prefer to go without glasses. No glasses = eyesight improves faster. (Always stay legal, safe for driving, work, hobbies...) Eyeglasses are discontinued permanently as soon as possible. It is best to try and stop use of eyeglasses immediately. If the prescription is strong, the eyes contain cataract, detached retina, retina, optic nerve problem, glaucoma, potential for these or any eye health condition; STOP WEARING EYEGLASSES! Eyeglasses cause and increase cataract, detached retina, torn, leaking blood vessels, capillaries in the eye, retina and most all eye health problems. (Strong prescriptions will advance these conditions.) Eyeglasses can interfere with healing of an eye injury. Contact lenses also cause all of these problems.

A man who wore strong glasses for many years started to see flashing blue lights. He told his eye doctor. The eye doctor then increased the eyeglass prescription, prescribed the strongest glasses the man ever wore. He then saw more blue lights, had a bout of temporary blindness. Doctor told him to keep wearing the glasses. Then more blue lights, then blindness. A blood vessel burst in his retina, glaucoma came back and black cataract in both eyes.

In the past this man stopped wearing eyeglasses for a couple years and used the Bates Method. He cured cataract in both eyes and 80% of his glaucoma and myopia. Then he had a lot of stress in his life, lost his home and family. His vision blurred a bit from the stress. *Stress can lower the vision*. If glasses are avoided, relaxation obtained; the vision returns to clear. Unfortunately he followed his eye doctor's advice and went back to glasses. This is when the trouble started, strong glasses prescribed which lead to blindness. Eye surgery was performed on the broken retina blood vessel. He is now staying away from glasses *forever* and works to restore his sight naturally. He refuses surgery for the cataracts because many of his eye problems occurred years ago due to eye surgery so he's reluctant to trust doctors, hard to find a good one.

Some teachers, businesses that sell books, courses on Natural vision Improvement sell vitamins, nutrients for the eyes. The health of the liver, kidneys, gall bladder, spleen, digestion... affect vision, the eyes health. There are healthy effective remedies that improve function of the body organs, circulation... Choose carefully. Some herbs, vitamins, minerals... can be toxic, impair body chemistry, hormones, health and vision. Some teachers sell herbs, ingredients in their eye vitamins, formulas that have side effects, impair the eyes health and clarity of vision. They do not warn about this.

Healthy food, good nutrition has a positive effect on the clarity of vision, health of the body and eyes. Most vitamins, nutrients... are beneficial but they are best acquired from fresh food. If taken in pill form; it must be created from food, not artificially from chemicals... No additives. Read the Nutrition Chapter; cleareyesight-batesmethod.info/id21.html and avoid products containing bilberry leaf, eyebright, sulfite's, sulfate, nitrites, nitrate and other unhealthy ingredients, certain herbs, preservatives, chemicals. Natural sulfur from cabbage... is healthy. Chemical versions are not. Sulfite's, sulfate, nitrites, MSG, hydrolyzed... protein, corn, soy, yeast.., aspirin, aspirin type herbs, other herbs can cause temporary migraine headaches with flashing lights, blind spots in the visual field, impaired memory, a variety of health problems. Read the labels, check all the ingredients. MSG is also called flavor enhancer. MSG and other chemicals are labeled under many different names that the govt. has legalized so the food industry, restaurants can hide ingredients. Aspirin causes kidney, stomach damage, headache, other health impairment. It's addictive. Acetaminophen, NSAID's cause kidney, liver, joint damage, heart attacks, impairs eye health, vision and is the cause of many health problems. Avoid calcium in pill form. It causes deposits in the body, kidneys... Drug store (and also many phony natural) eye drops contain chemicals, toxins. Diet, injuries, drugs, chemicals, sinus sprays (sinus sprays, chemicals cause glaucoma, cataract, lower central and peripheral vision, color perception), eye drops, some eye medicine, sinus infection or congestion, mold allergy, lead, tooth cavities are other causes of eye-vision problems. Bilberry berries are healthy. When buying bilberry, ask for pure organic bilberry fruit, the berries only, no leaf. (Bilberry leaf CAN be toxic.) The berries are excellent. Pure bilberries improve eye health and day, night vision. It's an old World War Two pilots food for clear night vision when flying. They ate it as bilberry jam. Best without adding processed sugar. True bilberry contains a lot of dark red/purple juice inside the berry and the skin. It temporarily stains the skin when the berry is compressed in the fingers, as a blackberry or wild blueberry does. This juice and entire berry is healthy for the eyes, retina, its cells, cones-rods light receptors. Lutein and other nutrients, carrots, spinach, lemon-orange peels, cornsilk, certain types of chrysanthemum... are also beneficial.

Many Natural Vision Improvement websites have discussion forums, groups, guestbooks, blogs where people can post subjects on the Bates Method-Natural Vision Improvement, ask questions and learn from others that have improved their vision. When you connect with the right people it is a very positive experience. Life evolves through the exchange of ideas, sharing experience, cooperation and new creations. Beware of some Natural Vision Teachers that 'hang out' on groups, forums giving limited help; they often are trying to lure people into taking private lessons for $50.00 to $200.00+ per hour, $300.00 - $5000.00 and up seminars. Sellers also post for them. Most of the people on these forums are honest, very helpful, but there are a few that go on the forums giving the impression that they are strict Bates Method people but in reality they are providing links to websites, eye doctors that sell unnatural use of eyeglasses 'plus lens method'.., lasik and other cornea surgery, contact lenses, artificial 3-D, pinhole glasses and other harmful products, treatments. Some people state incorrect, harmful advice and/or hide true Bates Method training. They try to make it seem difficult, complicated, state that only a highly intelligent personality can understand it and be successful. This is false. The Bates Method is easy, simple, a 'Do It Yourself' practice. Children learn it, are cured and become effective teachers. Many people obtain clear eyesight by only removing their glasses, learning to relax and shift, know what central-fixation is. A quick 10-30 minute lesson.

Be careful downloading free software from websites and typing, clicking on a forum chat, e-mail forum post or private message notifications. I was hacked many times on a forum chat and other ways by competing teachers, authors from Iowa, Kiev-Ukraine, Russia, Italy and their partners in other countries. Some websites, software contain spyware, hacker viruses. A popular Better Eyesight Magazine website gives free software for the computer screen, eyesight but it acts as a virus, slows the computer.., produces pop-ups asking for money. Some teachers link to it on their websites and advertise it in their books. It's hard to remove, hides in the computer. You can use Norton tools; Power Eraser (careful; hackers sneak in and corrupt it), other virus, spyware... removal or find a good repair/detective guy to remove it. The magazines on that website have many spelling mistakes and missing issues. For years I have offered the owner help to fix the magazines but he does not reply. Site has some kind of tracker, cookie that locks into your computer. He may have just moved on, does not care to work on the magazines but I find that a very strange thing to do. I suspect there is a new 'secret owner or co-owner', they prefer the magazines to stay incomplete, mis-spelled so they can sell high priced paperback, PDF complete copies. This type of people hacked me 7 times trying to shut down our free magazines, bookstores on Amazon... and link to that and two other duplicate websites in the U.S., Kiev, Russia... They use Dr. Bates name, picture... to sell unhealthy adult content, drugs... They want to stop honest teachers from providing Dr. Bates books, magazines for free and low price. They sell for a very high price. There are bad people in the world. The good must stand up and protect Dr. Bates work!

For Natural Eyesight Improvement Bates Method forums, groups, discussion websites and book reviews, comments at bookstores; Note that some group... owners and members posting have become corrupt and are selling advertisements. Avoid their ads for lasik and other eye surgery, unnatural vision courses, eyeglasses, contact lenses, eyedrops, some vitamins, herbs... It's so sad that Dr. Bates name and work are being used in this way. Speak up against this corruption!

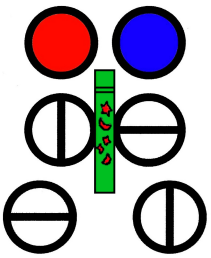
Read more information on the different types of teachers, authors, books - the good and the bad, what's best, all the unnatural methods, eyeglasses to avoid; See the 2 *Warnings, Directions*... PDF's on top of this page; http://cleareyesight-batesmethod.info/id110.html and here; http://cleareyesight-batesmethod.info/id36.html Study these so you can detect a false teacher. My videos on YouTube show how all eyeglasses; plus and minus lens, astigmatism lens, contacts, prisms harm the eyes, eyesight. Watch for new videos in 2015 showing more natural cures for myopia, farsight, presbyopia.

For the antique books I preserve, publish and sell on the website, Amazon...; about 3% of the training in some doctors, teacher's antique books have modern practices included to update or add to some of their original methods. New practices, clarifications are in blue. I never remove the antique pages, pictures, training. Modern practices and pictures are added while maintaining the original work. Other teacher's books I like and list have 100-97% perfect training, but a few contain 3% unnatural practice. It's worth it to read, learn from their books. Things to avoid such as artificial 3-D, pinhole and colored glasses... are posted here and on the website.

People have been stealing my website, books' content and using that and Dr. Bates books to create their books with unnatural methods, use of eyeglasses... added. I do not endorse, do not allow this. In Sept., 2014 Amazon took control of my Amazon Author's page; http://www.amazon.com/William-H.-Bates/e/B004H9DOBC/ref=ntt_athr_dp_pel_pop_1 that I created for Dr. Bates and his books. It's a public domain law Amazon must follow. Other authors might now be posting their books on that page under Dr. Bates name and any Amazon page that contains Dr. Bates books. This means that books with unnatural content added might get mixed in with Dr. Bates true, natural method books I have assembled. I cannot stop this. Amazon allows me total free speech, videos, pictures, twitter, blog... on my Clark Night page. Read directions for selecting Dr. Bates true books without unnatural methods added; http://www.amazon.com/Clark-Night/e/B004HU1MNS/ref=dp_byline_cont_pop_book_1 Amazon might create a publishers page with only the publisher's books allowed.
The best option is to find our books by the titles, authors and covers on the website; http://cleareyesight-batesmethod.info I'm building a new Dr. William H. Bates Author's Page for our books on the website and linking to Amazon. Be careful; other author's books might sneak onto the Amazon page. Will invite true natural teachers and antique dealers to also post their and Dr. Bates authentic books on the website.

I removed the names of the dishonest and high priced teachers, the ones described in this book, website that teach harmful methods. I did this to avoid harassment, frivolous lawsuits and to be kind to the teachers that do teach beneficial practices, but unfortunately also teach unnatural practices. I will give their names to people that contact me by phone or e-mail so you can avoid them, prevent harm to your eyes, vision and also check out the good practices that some teachers provide. You have these pages and our Warnings, Directions PDFs listed in this book, website to protect you; so you know what to watch for; what is healthy, beneficial, safe to practice and what must be avoided.
Some teachers, authors tried to do a hostile takeover of my business, website, book rights after I refused to sell it to them. I have lawyers on retainer. The Bates Method works! That's why so many people are fighting over who can sell it and most eye doctors, surgeons hide it.
Stay with the true original Bates Method for clear eyesight and healthy eyes.

Warnings, Descriptions For Artificial 3-D Fusion Autostereograms, Magic Eyes Pictures;



I do not teach, advise Artificial 3-D Fusion Eye Exercises, Also labeled as; 'Autostereograms, Magic Eyes Pictures, Merging Objects, 3-Cup Images...' It can cause strabismus, *crossed, wandering eyes*, impair the eyes convergence, divergence, accommodation, un-accommodation, the eye muscles and eyes movement, cause eye muscle tension, double vision, astigmatism and blur in normal eyes and more so if there is a slight or advanced strabismus or other eye, medical problem, imbalance of the brain hemispheres or other brain functions, neck injury-tension, mis-aligned skull bones, other conditions. The Artificial 3-D can make a slight strabismus condition worse. It causes strain, tension, stress and confusion in the brain, eyes, retina and eye muscles. *It is not the Bates Method.*

Artificial 3-D Fusion exercises are not necessary to obtain clear vision, normal eye movement. It was not taught by Ophthalmologist Bates. The Bates Method alone can cure strabismus; there are plenty of other activities, methods with *true* fusion, 3-D to obtain clear, balanced vision, coordinated eye movement in Dr. Bates book, magazine. Dr. Bates and modern Bates Method Natural Eyesight (Vision) Improvement teachers teach different activities, natural ones with true 3-D (Three-Dimensional vision, depth, distance... perception) for correcting crossed, wandering eyes 'strabismus' and amblyopia, unclear vision.

The picture on the right shows an artificial 3-D example; looking at the pen placed in the central field, between and before the 2 red-blue circles which are in the peripheral field, to create an illusion of a 3rd circle between them. (Many teachers make this even more abnormal by not using the pen; the eyes just stare into space. The pen brings at least some normal effect.) Thinking red makes the circle turn red. Thinking blue makes it turn blue. This strains, confuses the brain, eyes, retina and eye muscles. See the Artificial 3-D warning at; http://cleareyesight-batesmethod.info/id103.html and in our books. Dr. Bates has extra 'similar but different' practices that correct strabismus naturally. Search treatments for squint, crossed eyes, double vision... in his book *Perfect Sight Without Glasses* and *Better Eyesight Magazine*.

Look for the practice using a candle flame and the girl that learned to turn the eyes in any direction and avoid tension.

Some Behavioral Optometrists, Ophthalmologists teach forms of Artificial 3-D Fusion as activities, tests a special way for each individual person's strabismus condition and obtain good results. It should be used for strabismus (crossed, wandering eyes) only. Ask a Bates Method Behavioral Optometrist, Ophthalmologist for guidance if you have tried the Bates Method FIRST, worked with a Bates teacher and still need additional help. Follow your doctor's directions. Do not copy it from a book, website created by an unqualified person. The doctor's activity might help correct imperfect convergence, divergence, fusion, strabismus when applied correct. It must be practiced with the guidance of a Bates Method Behavioral Optometrist, Ophthalmologist. The eye doctor will teach the patient which activities are to be done for specific conditions, distances that the patient's eye movement, convergence, divergence, fusion... needs improvement. The doctor might have the patient practice with the 3-D image card placed at only one, two distances or at a variety of close, middle and far distances, fusing the two images into a 3rd by looking at one or a variety of different close distances/objects before the card and/or one or a variety of different far distances/objects beyond the card. (one distance at a time.) Distance of the card might be varied. Spacing between the two images might be at a variety of widths or limited. Merging, fusing images that are further apart or closer together being accomplished with advanced fusion training if needed. How many are practiced, length of time each or only some of these activities, routines are practiced is determined by the student's condition; convergence or divergence impairment, eye, eyes in, out, up, down, angled.., degree of impairment and other eye-vision and brain conditions. Other old and new treatments, pictures... might be applied.

This is NOT a one size fits all, just carelessly thrown in a book, webpage for every person's treatment! Only a professional can prescribe a safe, correct, *precise* routine for each individual. Practicing too much or too little at a specific distance, at the wrong distance, on pictures spaced a specific width that's not needed, the wrong activity… can impair convergence, divergence and cause other eye, vision problems, astigmatism, cause and increase amblyopia.

Some teachers place the Artificial 3-D in their books, school to attract attention, seem professional. They teach it wrong. They should warn about the side effects. It effects how the brain works with the eyes, retina, eye muscles. It is not to be toyed with. Do not interfere with a child or adult's natural brain, eye development, function. It must be applied by a professional experienced in the function of the eyes, the brain, brain hemispheres, visual cortex, nerves, eye muscles and other functions. Accommodation, un-accommodation of the eyes and lens work-occur with the eyes convergence, divergence, fusion. All are affected, improved or impaired when the activities, tests are done correct or incorrect.

Most vision teachers do not teach this the correct way, do not warn about the side effects of doing it wrong because they cannot prescribe for every individual person's condition in the class, in books and usually do not know the entire, correct Behavioral Optometry treatment. Even a Behavioral Optometrist, Ophthalmologist needs the best training and experience, know exactly what part of the brain needs work. They also need to learn the Bates Method of Natural Eyesight Improvement so they can give their patient an option; true natural (Bates Method) treatment, or if needed, the artificial 3-D and be sure it's done correct, and apply both methods; the Bates Method and the professional Artificial 3-D. The artificial 3-D is a temporary treatment. The Bates Method is a permanent practice, an art, natural correct vision function.

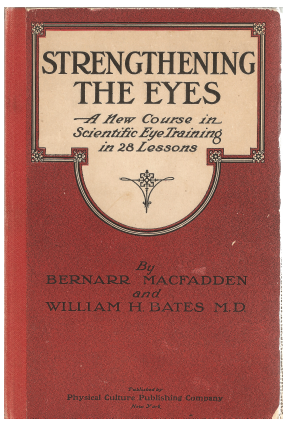
The Artificial 3-D activities do produce a natural 3-D effect created by the eyes, retina, brain, left and right brain hemispheres, visual cortex. Seeing the correct fused image indicates the brain, eyes and eye muscles are working together, eyes are balanced-aligned. But; I call the activities *Artificial* 3-D because it is not the normal way a person uses the eyes-vision to see an object clear. The Artificial 3-D has the person staring into space between, and before or beyond 2 objects

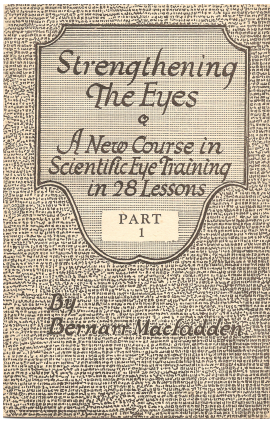
placed in the left and right peripheral field, merging these two into a 3rd object which shows an illusion of it being in the central field. In reality it is 2 areas/objects of the peripheral field combined and still in the peripheral. The person is using the peripheral vision to see with. Diffusion occurs. This prevents Dr. Bates #1 natural practice of central-fixation (true central vision). Shifting, natural eye movement is also prevented, impaired. Artificial 3-D causes strain, tension, confusion in the brain, eyes, dizziness and other side effects. Impairing the eyes natural movement leads to unclear eyesight.

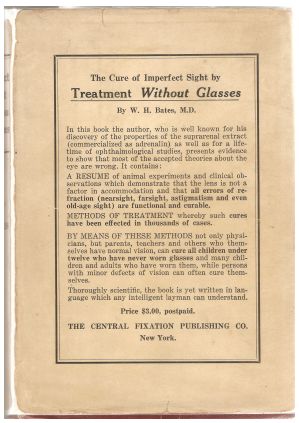
True completely natural 3-D vision for healthy eyes, correct eye-brain function, clear vision occurs when; looking directly at the object you want to see, directly at the distance the object is at, in the *true central field* with the mind, eyes 'mental-visual attention' on/at that object, distance. And; the central field, (the retina's fovea) 'visual-mental attention' are moving 'shifting' part to part upon the object. *True natural fusion* produces a completely natural 3-D vision created by the eyes, retina, brain, left and right hemispheres, visual cortex. You can determine true depth, distance of objects, time, speed to travel to, from one object to another... You see the object's texture, shape, all parts large to tiny, light, shadows.

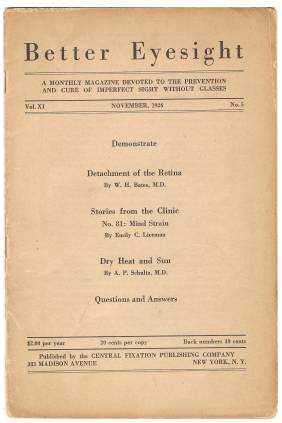
Try the Bates Method first; relaxation, central-fixation (centralizing), shifting, switching (looking close and far), bead string, pens in a row (*natural* healthy fusion with *true* 3-D), phoria swings, memory and imagination, natural movement, long swing, left and right brain hemisphere activation and integration, color treatment and other natural methods are usually all that are needed. See the Switching, Bead String and other chapters in the books to test and correct the vision.

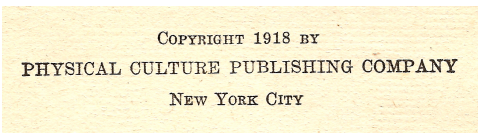
Bernarr MacFadden & Dr. William H. Bates first book-kit, 1918 & Dr. Bates 1920 book Perfect Sight Without Glasses & his Better Eyesight Magazine, 1919 to 1930;











Central-Fixation Publishing Co. - 1919, 1920-1940

Natural Vision Improvement GuestPage-Forum; http://naturaleyesightimprovement-batesmethod.com/GuestPage

Google Hangouts, Video Chat; http://cleareyesight-batesmethod.info/id93.html

YouTube 120 videos; https://www.youtube.com/user/ClarkClydeNight/videos?flow=grid&view=0

Facebook; https://www.facebook.com/MaryIOliver?ref=profile

Twitter; https://twitter.com/mclearsight

Skype; mary.oliver981

Go to; http://cleareyesight-batesmethod.info for free e-books, paperbacks, vitamins, colored lights and other products.

Questions; E-mail; mclearsight@aol.com Phone; 1-508-754-0162 Address; Broadway-8th St. South Boston, MA

This book is also dedicated to all the teachers listed in this *Bates Method History, Teachers, Books* chapter (Dedicated in Historical order.) They worked with Dr. Bates & Emily and/or continued their work and wrote books on Natural Eyesight Improvement.

Dr. Bates listed many of his personally trained 'certified' Bates Method teachers in his Better Eyesight Magazine.

The bottom of the next page and following pages list Bates Method teachers that were trained in person, directly by Dr. Bates from 1918 to 1931. Some have written excellent books. It's created for people that want to search for these teachers' books, movies... and possible books, creations by their ancestors. Top of the list belongs to;

Doctor William Horatio Bates

& his New York City Clinic Assistant, Wife Emily C. Lierman (Emily A. Bates)

In 1918 William H. Bates M.D. and Bernarr A. Macfadden wrote;
Strengthening The Eyes - A New Course in Scientific Eye Training in 28 Lessons

Announcements

We are publishing the following names to aid those who cannot consult Dr. Bates personally, but who wish to follow his method correctly. These pupils have taken his course of treatment and are qualified to help others. They are constantly in touch with Dr. Bates' work and learn immediately of his latest discoveries.

CALIFORNIA

Dr. E. Sisson, 1611 Castro Street, Oakland

COLORADO

Dr. H. F. Fisher, Barth Bldg., Denver

Dr. M. W. MacManus, 434 Empire Bldg., Denver

FLORIDA

Dr. N. S. Berry, 1902 Morgan Bldg., Tampa.

Dr. E. M. Jones, 476 First Avenue, N. St. Petersburg

GEORGIA

Mrs. R. S. Bottenfield, D. O., 102 East 9th Street, Atlanta.

ILLINOIS

Dr. E. T. Fisher, 29 East Madison Street, Chicago

Miss Elisabeth D. Hansen, 308 N. Prospect Avenue, Park Ridge

MASSACHUSETTS

Mrs. F. S. Low, Danvers

MINNESOTA

Miss R. Mitchell, 508 First Avenue, St. Cloud

Mrs. W. W. Morse, 1635 West 26th Street, Minneapolis

MISSOURI

Dr. H. J. Geis, Kirksville

NEW JERSEY

Dr. M. E. Gore, 51 Main Street, Orange

Dr. G. W. Reade, 517 Main Street, East Orange

Miss Mildred Shepard, 50 Main Street, East Orange

Dr. J. M. Watters, 2 Lombardy Street, Newark

Mrs. A. L. Reed, East Orange (away for summer)

J. L. MacKinnon, D.C., 260 Fair Street, Kingston

NEW YORK CITY

Dr. C. E. Achorn, 6 West 51st Street

Miss May Secor, 521 West 122nd Street

Dr. R. Arnau, 238 West 106th Street

Dr. L. Stanton, 49 West 57th Street

Miss Anna Woessner, 220 West 42nd Street, Room 1205. Tuesday and Thursday, 5 to 7.

BROOKLYN

Miss K. Hurty, 177 Woodruff Avenue

OREGON

Dr. Clara Ingham, 306 Alisky Bldg., Portland

PENNSYLVANIA

Dr. X. G. Couch, 304 Empire Bldg., Philadelphia

VERMONT

Mrs. L. J. Hathaway, Middlebury

Better Eyesight 15

Announcements

Space does not permit us to print the entire list of Dr. Bates' authorized representatives in the United States, Canada and Europe, which we should like to do for the benefit of our subscribers. The following, however, is a list of those who have taken courses of instruction in the Bates Method within the past few months. Those subscribers who wish to know if there is an authorized representative in their city may obtain this information by writing direct to Dr. Bates at 210 Madison Avenue, New York City.

Miss Clara M. Brewster, Studio 6, Aquila Court, Omaha, Nebraska.

Miss Mary E. Wilson, 2538 Channing Way, Berkeley, Calif.

Dr. Paul J. Dodge, 911 New Industrial Trust Bldg., Providence, R. I.

Mrs. D. L. Corbett, 1712½ Fifth Ave., Los Angeles, Calif.

Miss Jane Button, 249 Harvey St., Germantown, Pa.

Mr. Fred Baechtold, 572 12th St., West New York, N. J. Tel.—Palisade 6-7735

Mr. Harold E. Ensley, 112 West 104th St., New York City.

Dr. Med. E. Schluter, Hamburg, Mundsburgerdamm 11, Germany.

Mrs. R. Norman Jolliffe, 171 West 71st St., New York City.

Better Eyesight 15

Announcements

We take pleasure in announcing that the following have recently completed courses of instruction at Dr. Bates' office and are qualified to practice the Bates Method:

Dr. Paul J. Dodge,
911 New Industrial Trust Building, Providence, R. I.

Dr. med. E. Schlüter (prominent eye specialist),
Hamburg, Mundsburgerdamm 11, Germany

See the 'Bates Method History, Teachers, Books' Page on the website;
http://cleareyesight-batesmethod.info/id4.html

More Teachers Trained Directly By Dr. Bates & Listed in His Better Eyesight Magazine as Qualified To Teach;

April 1924;

Announcement

Miss Mildred Shepard, 50 Main St., Orange, N. J., is now a certified teacher of better eyesight. She is well qualified to cure imperfect sight by treatment without glasses. The Editor of Better Eyesight takes great pleasure in recommending her to any who may need her services.

Nov 1924;

El Uso Natural de La Vision

(The Natural Use of Vision)
***By* R. RUIZ ARNAU, M.D.**

THIS book should appeal to Spanish-speaking people, because it contains numerous demonstrations of the truth which make it possible to cure imperfect sight by treatment without glasses. In the magazine, "Better Eyesight," of May, 1920, is an article by Dr. Arnau with the title "My Headaches" in which he describes at length how he was cured of chronic headaches and imperfect sight by treatment without glasses. As a result of his cure he has become able to give relief to his patients. **The author's most important contribution is his claim that the true use of the ciliary muscle is not to increase the curvature of the lens when the eye is focused for reading at the near point, but just the opposite: The ciliary muscle prevents any change of form in the curvature of the crystalline lens.**

He has written a great deal about mind strain as the real and only cause of defective eye-sight. He discusses the unconscious movements of the vegetative functions of the body, circulation, respiration and the constant mental shifting as entirely in accord with the new ideas of Einstein, Korbzyski and others.

The Tachorthoscope was discovered by Dr. Arnau. It is an apparatus for the treatment of patients who are not benefited promptly by other methods. He has also investigated the use of music by which some patients find an easy way to obtain a short swing through the auditory memory.

Dr. Ruiz Arnau of Madrid, who is now there introducing Dr. Bates' method into schools, and to those medical doctors who desire to learn a better way of obtaining perfect vision, than the use of eyeglasses. Dr. Arnau became intere sted in the Bates Method some years ago when he himself was suffering with continual headaches and other discomforts caused by mind and eyestrain. He came from San Juan, Porto Rico, leaving a good practice to seek the only Doctor who could help him. Dr. Arnau has shown his appreciation for what Dr. Bates has done for him by writing a book entitled, "El Uso Natural de la Vision," which he dedicated to Dr. Bates.

Jan 1925;

Announcement

We are pleased to announce that Capt. C. S. Price,, of London, England, will visit Dr. Bates around the latter part of January. He is planning to discuss with Dr. Bates the best methods which are employed for the cure of imperfect sight without glasses. The spread of Dr. Bates' method in England is largely due to Capt. Price's enthusiasm and success in helping others. There are now two clinics, and a Better Eyesight League in England, all reporting favorable results. We are hopeful that Capt. Price will attend the February meeting of the League.

April 1925;

Announcements

THE WORK IN ENGLAND

Capt. C. S. Price, of London, England, has been the guest of Dr. Bat es for s everal weeks. Dr. Bates wishes to announce that he finds Captain Price thoroughly capable of curing imperfect sight by his methods.

July 1925;

Announcements

Correction

Dr. J. L. MacKinnon, a student of Dr. Bates, is using his method successfully in Kingston, New York. The June issue of “Better Eyesight” removed him from Kingston, New Jersey, in error.

Aug 1925;

Announcement

Our readers may be interested to know that of November first, Miss S. I. Paisley, formerly of Washington, D. C., will be in Los Angeles as a representative of Dr. Bates. Other representatives who have just completed Dr. Bates' Course on the "Cure of Imperfect Sight Treatment Without Glasses" are:

DR. J. B. CLAVERIE,
1467 East 53rd Street,
CHICAGO, ILLINOIS,

DR ST. GEORGE FECHTIG,
97 Madison Avenue,
NEW YORK CITY,
and
PALM HARBOR,
Pinellas County, Florida.

Dec 1926;

Announcement
Miss Katherine Hayes, of the Central Fixation Publishing Company, will be pleased to improve cases of imperfect sight by treatment without glasses at 303 West 122nd Street, New York City, Telephone—Cathedral 3450.

May 1927;

Announcement
Because of the increased demand for the Bates Method in California, Emily C. Lierman, assistant to Dr. W. H. Bates for fourteen years and also manager of the Central Fixation Publishing Company of New York City, has opened an office at 609 South Grand Avenue, Los Angeles, California, where she is treating patients. Mrs. Lierman is also giving courses of instruction to those who desire to cure imperfect sight by the Bates method. At the completion of the course, the student receives a certificate authorizing him or her to improve defective vision by treatment without glasses. Mrs. Lierman is delivering lectures throughout California and is ***showing moving pictures which illustrate the Bates Method of curing imperfect sight***.

May 1927;

Announcement
Dr. H.M. Peppard, of 71 Park Avenue, is a representative of Dr. Bates and is qualified to improve or cure imperfect sight by the Bates method. Office hours – 9:30 to 6:00 Telephone Caledonia 4694

Oct 1927;

Announcement
Dr. Bates wishes to announce that Mrs. E. C. Lierman, his assistant for fifteen years, has finished her work in California, and has resumed her work at his office.

Oct 1929;

Announcement
Dr. Bates takes pleasure in announcing that Dr. John A. Rath of 111 North West Ave., Jackson, Mich., has recently completed a course of instruction under him and is fully qualified to practice the Bates Method.

Feb 1930

Announcement
Dr. Bates takes pleasure in announcing that the following have recently completed courses of instruction under him and he highly recommends them to anyone desiring their services:

Miss Clara M. Brewster,
Studio 6, Aquila Court,
Omaha, Nebraska.

Was Clara trained by Dr. William H. Bates or one of his trained teachers? **Miss Clara M. Brewster** is listed as a certified teacher in Dr. Bates Feb., 1930 issue. Was this her maiden name? Or, maybe she was trained by Margaret Corbett. Clara's Book, Relax and See, A Daily Guide To Better Vision, 1955.

Mr. Fred Baechtold,
633 Hudson Ave.,
West New York, New Jersey.

Mr. Baechtold will be pleased to visit those patients who desire to receive treatment at home. Appointments can be arranged by telephoning him at Palisade 7735.

Mar 1930;

Announcements
Dr. Bates wishes to announce that the following have recently completed courses of instruction and are authorized to practice the Bates Method:

Miss Mary E. Wilson,
2538 Charming Way,
Berkeley, Calif.
Miss Wilson is the principal of the Anna Head School for Girls in Berkeley and plans to introduce the method into the school for the prevention and cure of imperfect sight in her pupils.

Mr. Harold E. Ensley,
112 West 104th Street, Tel. Academy 6941, and 45 W. 45th Street, New York City, Tel. Regent 9483. Mr. Ensley was formerly a student at Princeton University.

April 1930;

We desire to inform our subscribers that the "Better Eyesight" magazine will be discontinued after the June, 1930, issue. This will enable ***Dr. Bates and Mrs. Bates to devote more time to the writing of new books on treatment alone for which there has been a very great demand during the past year***. Subscriptions for the remaining months, however, are being received. We request that all those who desire to be notified upon the publication of new books kindly send us their names and addresses, which will be kept on file.

May 1930

We take pleasure in announcing that the following have recently completed courses of instruction at Dr. Bates' office and are qualified to practice the Bates Method:
Dr. Paul J. Dodge,
911 New Industrial Trust Building, Providence, R. I.
Dr. med. E. Schluter (prominent eye specialist),
Hamburg, Mundsburgerdamm 11, Germany

I'm sure there are more teachers. Search in the magazines, his books, articles, advertisements.

OCTOBER MEETING

PERHAPS no speaker has brought greater encouragement to those endeavoring to gain better eyesight than Miss Florian Shepard, of Orange, N. J., who spoke to our League on October ninth. The special significance of her cure lies in the fact that it has been one of the unusually slow ones. Miss Shepard told the history of her case and related the gradual steps in her progress. At first nothing seemed to work. Palming, swinging, everything produced strain instead of relaxation. It was only by long perseverance that she was able to arrive at any real success. Again and again Miss Shepard spoke of the marvelous patience and understanding with which Dr. Bates helped her find a way out of all her difficulties. Her testimony proves that Dr. Bates can succeed not only with easy cases but also with hard and unresponsive ones.

Miss Shepard spoke of the trick of timing the swing with the thumb and finger, and Dr. Bates later discussed this point. Attention was called to the fact that the September magazine had an article on the subject.

At Dr. Bates' request Miss Mildred Shepard gave a short account of her cure. The most interesting part of all was perhaps the fact that since her eyes have become normal she is much less tense and consequently less nervous in all phases of her life. She spoke of herself as having become "happy-go-lucky."

LEAGUE BUSINESS

Miss May Secor, of 521 West 122nd Street, has been elected corresponding secretary.

The League has voted to amend the constitution to make the dues $1 a year instead of $3. The subscription to the magazine will not be included. Anyone wishing to join the League now will have paid up to January, 1925.

Of Special Interest

Throw Away Your Glasses

DOCTOR BATES' article in the September issue of Hearst's International Magazine awakened more interest in his method of treatment than any previous writings. Hundreds of letters were relayed from Norman Hapgood, Editor, to Dr. Bates and contained congratulations, inquiries and appointments for treatment. A special notice of this article was placed in the New York Times by the editor of Hearst's.

In view of this fact we have had reprints made of the article and will fill orders immediately upon receipt.

The title is THROW AWAY YOUR GLASSES, and it explains how this can be accomplished. Everyone interested in curing their own sight will be enlightened on many points by reading this reprint.

Don't wait until the initial supply is exhausted before placing your order. Price 35c.

Are You Nearsighted—Farsighted—Astigmatic?
Have You Cataract—Glaucoma?

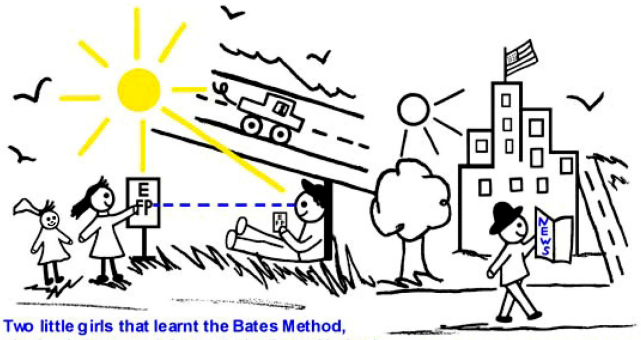
Then send for the number of the BETTER EYESIGHT MAGAZINE which deals with each of these defects individually. Dr. Bates explains the cause of each and how it can be cured by his treatment. These instructions can be followed by the layman.

ALL BACK NUMBERS 30c.

Bound Better Eyesight
July, 1922—June, 1923—Price $4.25

Bound in leather the same color as the book, and both together make an attractive set. This volume contains many helpful suggestions and instructions for the use of the various swings, shifting and palming. Progressive myopia, astigmatism and other defects are treated and their cause and cure explained. The cure of eye defects in children is described in various parts of the book.

Sunning, Sun-Gazing For Healthy Eyes, Mind, Body and Clear Eyesight



Two little girls that learnt the Bates Method, obtained clear eyesight teach the Bates Method to a blind homeless man they found living outside under a bridge.
They cure the blindness, his eyesight and health are restored.
Treatment: Sunning, sunlight, palming, shifting and switching on letters on identical close and distant eyecharts, swinging, central fixation...
Children are often the best Natural Vision Improvement teachers.

His blindness cured, he now reads the newspaper, walks the city on his own, looks for a job and continues to practice the Bates Method.

Persons with normal sight can look directly at the sun without injury or discomfort. Note that the eyes are wide open, with no evidence of pain and no watering.

Emily C. Lierman (A. Bates) looking at the sun; Sunning with relaxation, shifting and blinking.

Most modern teachers advise only closed eyes sunning. Others allow the original open eyes method shown above by Emily C. Lierman. (Emily A. Bates, Dr. Bates Wife, Assistant in his New York City Clinic.) The eyes are kept in constant movement; eyes, head/face moving side to side and in other directions. Shift the eyes and blink when facing the sun. Blink often, relaxed, easy. Circle the sun counter-clockwise and clockwise, draw the Figure Eight, do the Sway, Long Swing. Close and open the eyes. Palm. See pg. 201, this chapter, Dr. Bates Better Eyesight Magazine and the E-books for more pictures, directions for Sunning, Sun-Gazing, 'Saccadic Sunning' and drawing the Figure Eight correct.

The eye evolved in sunlight. The eyes and entire body; brain, all organs, systems, skin... need pure full spectrum sunlight, all frequencies, light waves to remain healthy, function correct, produce clear eyesight. Mood, sleep, absorption, creation and use of nutrients, chemical, hormone production-regulation, energy, chi, aura.., memory and all brain, body functions need full spectrum sunlight. Sunlight and raw organic apple cider vinegar and honey cures arthritis. Eyeglasses, sunglasses, tinted, colored, UV blocking eyeglasses, windows, all glass, plastic... blocks out part of the sun's light spectrum causing partial spectrum, unbalanced, unhealthy light to enter the eyes, brain and body. This lowers health and eyesight. Contact lenses completely seal over the cornea-pupil blocking out all full spectrum light.

Full spectrum sunlight destroys harmful bacteria, germs, mold.., protects the cornea, sclera, eyes from infection.

Picture below; Emily C. Lierman, A. Bates sunning her eyes.

From *Strengthening The Eyes*, the 1918 book-course by Dr. William H. Bates and Bernarr A. MacFadden.

Picture on right > From the early 1920 red and maroon editions of Dr. Bates book Perfect Sight Without Glasses.

Demonstrating again that the normal eye can regard the orb of day without injury. With the sun shining almost directly into her eye, the subject reads the Snellen test card with normal vision.

light is one of the best curative agents we can employ for the eye. Persons with weak and defective eyes should gaze up in the direction of the sun every day, until they are able to look straight at it without pain or injury.

ARTIFICIAL LIGHT MAY BE BENEFICIAL

Like the sun, a strong electric light may also lower the vision temporarily, but never does any permanent harm. In those exceptional cases in which the patient can become accustomed to the light, it is beneficial. After looking at a

Additional page, photo from another 1920 edition.

WOMAN READING THE SNELLEN TEST CARD WITH NORMAL SIGHT WHILE THE SUN IS SHINING ALMOST DIRECTLY INTO HER EYE

strong electric light some patients have been able to read the Snellen test card better.

It is not light but darkness that is dangerous to the eye. Prolonged exclusion from the light always lowers the vision, and may produce serious inflammatory conditions. Among young children living in tenements this is a somewhat frequent cause of ulcers upon the cornea, which ulti-

If the eyes are sensitive to sunlight from wearing eyeglasses, contact lenses, addiction to tinted or UV blocking lenses, sunglasses or just lack of sunlight exposure; start sunning with closed eyes. Then sun with one eye at a time. Equal time for each eye, alternating. When the eyes are comfortable in the sunlight; sun with both eyes together to keep the treatment, vision balanced.

Sunlight kills germs, bacteria, mold, heals injuries... It keeps the eyes healthy. A healthy diet improves the eyes, body's use of sunlight. Sunlight improves absorption of nutrients. Sunlight contains healthy natural vitamin D.

Artificial light is not as healthy as natural full spectrum sunlight. For indoor light; get sunlight into the room and use full spectrum light bulbs.

It is not light but darkness that is dangerous to the eye. Prolonged exclusion from the light always lowers the vision, and may produce serious inflammatory conditions. Among young children living in tenements this is a somewhat frequent cause of ulcers upon the cornea, which ultimately destroy the sight. The children, finding their eyes sensitive to light, bury them in the pillows and thus shut out the light entirely. The universal fear of reading or doing fine work in a dim light is, however, unfounded. So long as the light is sufficient so that one can see without discomfort, this practice is not only harmless, but may be beneficial.

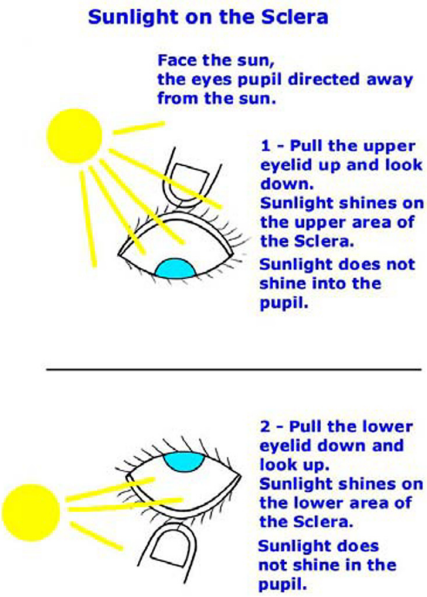
DR. BATES SUNLIGHT TREATMENTS
(As described in Better Eyesight Magazine)

Shining direct sunlight on the sclera, the outer white part of the eye is a old treatment Dr. Bates applied to bring life, health, activity to the retina and its cells, cones, rods, nerves, blood vessels. Dr. Bates cured unclear vision and other eye problems, diseases with this treatment. People that were blind or almost blind would begin to see light and obtain clear vision as result of this treatment and other Bates activities.

Directions

1 - Face the sun with the eyes pupil directed away from the sun. Allow full spectrum sunlight to shine directly on the sclera, (white part of the eye) by pulling the upper eyelids up while looking down. The sun shines on the upper white area of the eye. The eyes pupil is down, under the lower eyelid to prevent direct sunlight from shining into the pupil.

Move the eyes and head/face side to side to move the sunlight over the entire sclera and retina, lens through the sclera. Keep the sunlight moving on the sclera for a few seconds. Then stop, rest. Repeat if comfortable. Do not overdo it. Movement of the eyes, light places sunlight on all areas of the eye, retina, improves absorption, use of the light, activation of the retinas cells, light receptors... and prevents overexposure, concentration of the light, sunburn on the eye.



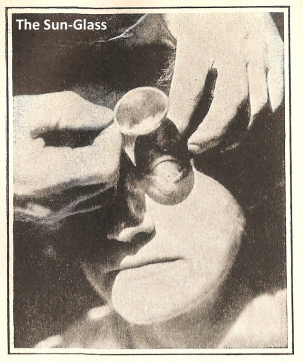
When pulling the eyelid; do not touch the eye or eyelid. Pull on the skin above the eyelid. Keep fingernails very short. Wash your hands first. Avoid chemical based soap.
Do both eyes at the same time; left thumb pulls left lid, right thumb pulls right lid. Pull gently.
This treatment also helps the eye build normal tolerance to sunlight, improves health and color of the sclera, perception of light, color, clarity of vision.

2 - Now, direct the sunlight onto the bottom of the sclera; Pull the lower eyelids down, move the eye/pupil up in the opposite direction so the sun shines on the lower area of the sclera and not directly into the pupil.
Move the eyes, head/face side to side. Keep the sunlight moving on the sclera for a few seconds. Then stop, rest. The head/body may need to be tilted back a bit to keep sunlight on the lower sclera and away from the pupil. Practicing this treatment repeatedly can tense the eye muscles and the pull of the fingers can irritate the eyelids, skin. Use it occasionally.

Sun-Glass Treatment

Dr. Bates cured advanced eye problems, blindness by the sunlight methods and, also applying the use of the Sunglass to increase the strength of the sunlight on the eyes sclera and retina through the sclera. He moves the sunlight through the Sunglass quickly over the sclera for only a second, few seconds. He also moves the sunlight through the Sunglass on/over closed eyelids. Light is not directed into the pupil. Light on closed eyelids is done first. The light is kept in movement and moved quickly on the sclera and not for too long; only a few seconds in order to prevent over concentrating sunlight on any one or more areas of the eye, to prevent overexposure, sunburn on/in the eye. Distance of the glass must be correct or the eye can be burned.

The patient is exposed to plain sunlight first, without the glass to get the eyes adjusted to the light before using the sun-glass.
Do not do this at home without an eye doctor's direction. Done incorrect, it can burn the eye.

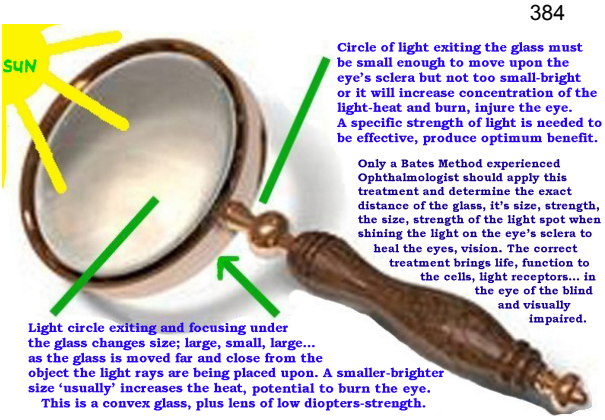


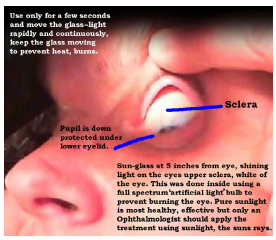
Concentrating the rays of the sun upon the eyeball with a lens or "burning glass," demonstrated to be an effective curative measure in conjunctivitis, iritis, ulcers of the cornea and other diseases of the eyes.

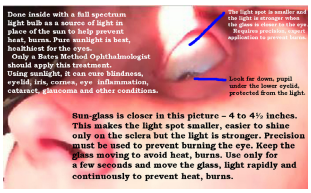
Closed-Eyes Sunning, then the Sunlight on the Sclera treatment (see picture top of page), then Open-Eyes Sunning are done first to adjust the eyes to bright light. Palm. THEN; CLOSED-EYES Sun-Glass Treatment is done FIRST before Open-Eyes Sun-Glass.

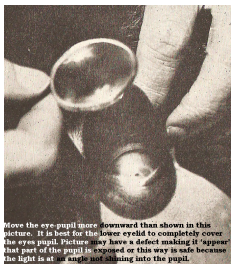
See the following pages for entire Closed and Open-Eyes Sunning, Sun-Glass directions. Find a Bates Method Ophthalmologist if you need the Sun-Glass treatment. If the eyes have been treated with surgery, medicine, drugs for the eyes, mind, body, any medical treatment; the patient may not be able to do certain sunlight treatments. Lasik and other cornea surgeries, possibly some lens surgeries impair the eyes' natural light refraction, control, absorption and use of sunlight. Sunlight can help some surgeries heal.

The Sun-Glass (Burning-Glass) Treatment is only for the blind, cases of advanced vision impairment. The sun-glass can burn the eye if done incorrect. It is a magnifying glass, it can set objects on fire! The sun-glass is a small convex lens **( )** magnifying glass, plus diopters. The eye doctor uses a specific size-number. When used correct it activates, brings function, life to the eye's retina, light receptors, nerves, lens... Closed Eyes Sun-Glass Treatment is applied first. It is the safest way to do the treatment and is often completely effective along with the other sunlight treatments without applying the Open-Eyes Sun-Glass. For both closed eyes and open eyes sun-glass treatment; precautions must be taken. Only an Ophthalmologist trained in this method should apply it. *All these conditions must be exact so the light emitted from the glass does not burn the eye;* Size, (length across the center of the circular glass from one side to the other), strength-diopter, thickness-amount of curvature of the convex magnifying glass, amount of magnification of the glass, the placement and angle of the glass and the distance the glass is placed from the eye, size and strength of the light spot on the eye (sclera), how strong must the light be to be effective but also safe, not too hot. Do not use the sunglass in very strong sunlight. The brightness, strength of the sun speeds and increases the heat of the light through the sunglass posing a risk of burning the eye. Strength of the sun-time of day, area on planet, ozone layer state and other conditions affect the heat of the light spot, it's potential to burn, injure the eye. Precision, perfect application must be applied. After distance of the glass is determined, then the doctor determines placement of the glass; above the eye by the forehead, eyebrow or top sclera. Do not shine the light into the eye's pupil! When applying Open Eyes Sun-glass (One eye at a time. Patch the other eye.); the eye looks far down with the pupil protected, covered by the lower eyelid. The upper eyelid is lifted. The Sun-glass light spot is then moved quickly, continuously for only **a few seconds** on the upper white area of the eye, on the sclera only. Keep the glass moving-the light spot in **constant rapid movement** upon the eye's sclera for a short time; **Open Eyes; only a few seconds; 2- 3 seconds, Closed Eyes; part of a minute; 10-15 seconds.** Movement of the light helps prevent heat, burns and activates all parts of the sclera and inside the eye, retina... PREVENT HEAT but get a good beam of light, not too strong but effective enough to activate the cells, light receptors... in the eye. Avoid placing strong, concentrated light on the cornea. See pictures > **(Read entire tests, directions below before using sunglass.)**





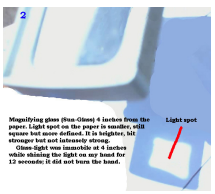


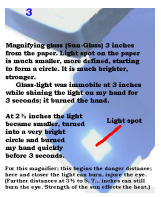


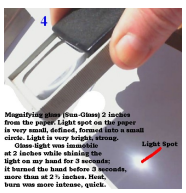
TEST the light strength, distance of the magnifying glass first; Test the strength of the sunlight 'heat' through the glass on a piece of paper first, then on the hand's skin to determine the distance the glass is to be placed to control the strength of the light, avoid heat so it does not burn the skin. The distance of the glass changes the size of the spot of light emitted from the glass. The distance of the glass, size, brightness of the light spot circle affects the strength-intensity of the light, heat and the speed that the light spot becomes hot, can set things on fire. This is concentrated energy.., light waves. Test the distance; move the glass far away from the paper; the light is big and not very strong. When the glass is moved closer to the paper, the light spot turns into a small very bright circle of light and is very hot, burns the paper and hand quickly. This is the dangerous light. At very close distances, 1½... inches, the circle becomes large again, the heat is reduced but still burns the hand. Give it time on the paper, then hand/skin to be sure of the distance; Test, find the distance with the sun-glass light immobile on the hand without burning it, feeling no heat for 30 seconds. Then test at the same distance on the hand 1 minute with the glass-light moving. If no heat, no burn when it is immobile for 30 seconds and when moving it for 1 minute; that might be the safe distance to use the sunglass on the eye (sclera) for a few seconds. This is only a home test. The Ophthalmologist will measure it perfectly.

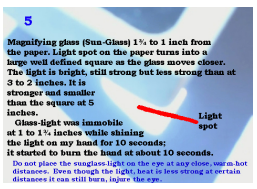
I prefer a small round glass for an even circle of light as shown in Dr. Bates sun-glass picture on the right. > For the experiment below and above I used a small square magnifier. Below; test with pure sunlight. Above; example using a light bulb. Other size, strength magnifiers will act differently. More information with large color pictures are in the free PDF E-books. Picture below on the far right > shows a test using a full spectrum light bulb, closer glass, smaller stronger light spot on closed eyes. The light bulb is not completely natural, it is less beneficial than pure sunlight. Read the Sunglass, Partial Light warning on the following pages.

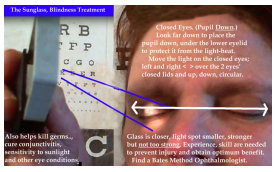
(In the experiment below for this glass; 5-4 inches might be the correct light, distance. See large pictures on the next page.)









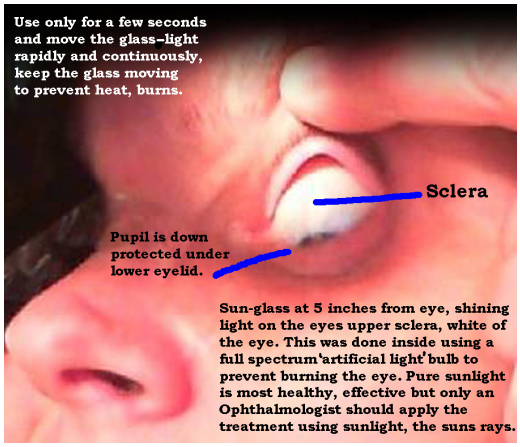


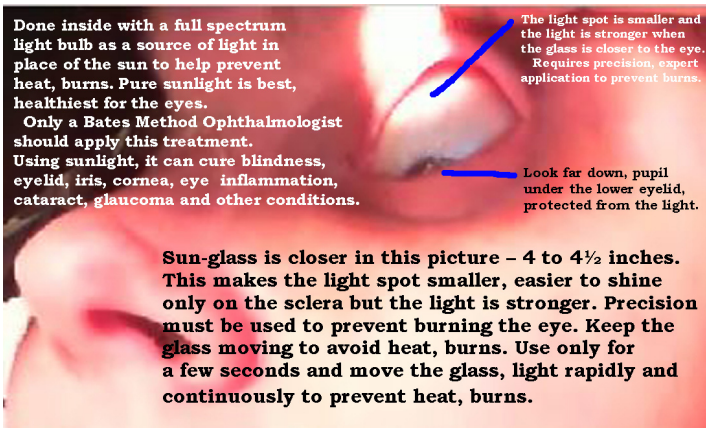
1st tests; in pictures #1 to 5 above (light immobile) were done in Worcester, Massachusetts, USA on April 24th, 2013 at 5:30-6:00 PM on a sunny day, no clouds.
When the light was immobile it burned the hand on some tests-distances, mainly with the smaller, brighter lights.
2nd tests; #1 to 5; the light was moving continual, rapidly on the hand for 10 seconds; I felt heat (mostly from the smaller, brighter lights) but it did not burn my hand.

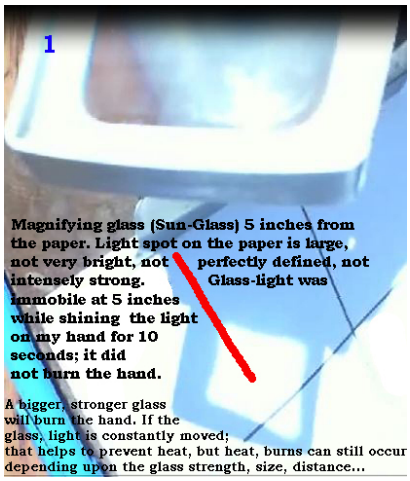
The EYE WILL BE MORE SENSITIVE to the light, heat so additional adjustments are needed to prevent injury when the light shines on the white area of the eye and also when shining the light on closed eyelids. Do not allow heat to occur because it can quickly turn to fire. You want only the concentrated 'but not too concentrated, not too strong' light beam circle on the eye's sclera. (Test the strength of the moving light on the forehead, then closed eyelids first before moving the light on the open eye's sclera.) Time the light is on the eye affects intensity of the heat; Short time=less heat. Rapid continual movement of the glass-keeping the light spot moving on the sclera helps prevent heat. Pictures are a basic example. Ask the eye doctor for the exact distance, placement... of the glass. Practice the entire Bates Method to gain clear eyesight. Do not rely solely on the sun-glass, sunning.)

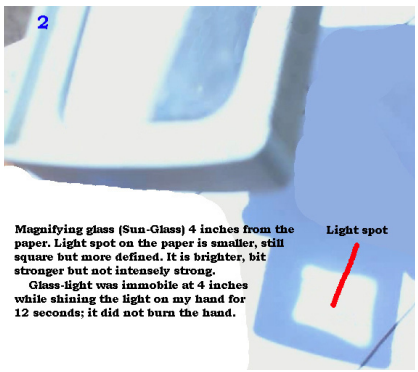
For picture on the far right > bottom page; When using the sunglass on closed eyes; continue to look FAR DOWN under the closed eyes to protect the pupil. Adjust sunglass distance to reduce strength-heat of the light. The light can be moved back and forth in small circles across both eyes when the eyes are closed.

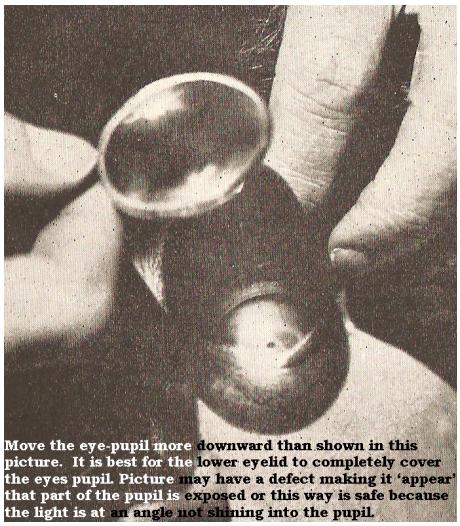
Larger *Sun-Glass* Pictures-Directions. For Ophthalmologist Only to Treat the Blind, Semi-Blind.

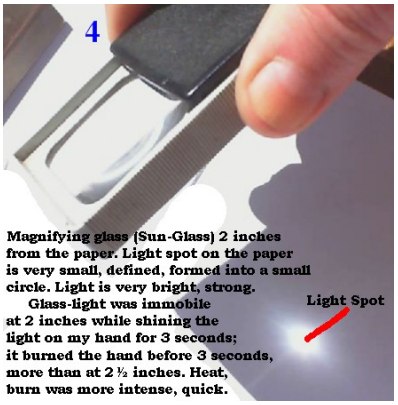


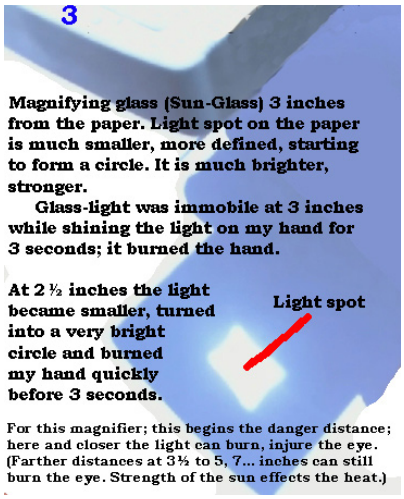


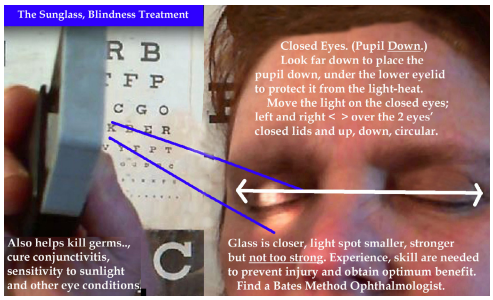


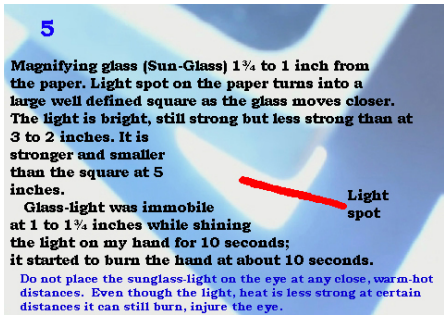












< Picture left; Sun-glass example using light from a full spectrum light bulb on closed eyes.
For the sun; move the glass farther away, making the light circle lighter, bigger, weaker strength.
Albinos; check with your medical and eye doctor first before trying any sunlight treatment.

Directions, Examples from Dr. Bates Better Eyesight Magazine;

THE normal eye needs light in order to maintain normal health and normal sight. People who do not see the sun always have eye trouble. Miners working in the dark all day long, and never seeing the sun, all have trouble with their eyes. Children living in dark tenement houses acquire a great sensitiveness to the light, and spend most of their time holding a cloth up to their eyes, or they bury their heads in a pillow, shutting out all light. They acquire many kinds of inflammation of the eyelids, and of the eyeball. The burning glass has a very wonderful effect on some of these cases. I remember one man who had not been able to do any work because of the sensitiveness of his eyes to the light. He was very promptly cured by a few minutes exposure of the eyeball to the strong light of the burning glass.

In using the burning glass, it is well to prepare the eyes of the patient by having him sit in the sun with his eyes closed. Enough light shines through the eyelid to cause some people a great deal of discomfort at first, but after a few hours' exposure in this way, they become able to gradually open their eyes to some extent without squeezing the lids. When this stage is reached, one can focus with the burning glass, the light on the outside of the eyeballs, which at first is very disagreeable! When the patient becomes able to open the eyes, he is directed to look as far down as possible, and this can be done in such a way that the pupil is protected by the lower lid. It is not well to use the burning glass when the patient squeezes the eyelids shut. As long as the light is focused on the white of the eye, and is done quickly, all heat is avoided. The length of time devoted to focusing the light on the white part of the eye, is never longer than a few seconds, moving the light from side to side, up and down, or in various directions.

WITHIN the past few months we have received innumerable inquiries regarding the use of the burning glass. It is well known that the sun strengthens the eyes, and with the aid of the burning glass the direct rays of the sun are focused on the sclera.

By persistence in looking at the sun, a person with normal sight soon becomes able to do so without any loss of vision; but persons with imperfect sight usually find it impossible to accustom themselves to such a strong light until their vision has been improved by other means. One has to be very careful in recommending sun-gazing to persons with imperfect sight; because, although no permanent harm can result from it, great temporary discomfort may be produced, with no permanent benefit. In some rare cases, however, complete cures have been effected by this means alone.

In one of these cases the sensitiveness of the patient, even to ordinary daylight, was so great that an eminent specialist had felt justified in putting a black bandage over one eye and covering the other with a smoked glass so dark as to be nearly opaque. She was kept in this condition of almost total blindness for two years without any improvement. Other treatment extending over some months also failed to produce satisfactory results. She was then advised to look directly at the sun. The immediate result was total blindness, which lasted several hours; but next day the vision was not only restored to its former condition, but was improved. The sun-gazing was repeated, and each time the blindness lasted for a shorter period. At the end of a week the patient was able to look directly at the sun without discomfort, and her vision, which had been 20/200 without glasses and 20/70 with them, had improved to 20/10, twice the accepted standard for normal vision.

Have you ever noticed that upon emerging from a dark room into a strongly lighted one, or from the dark movies into the sunlight, that you are temporarily blinded? This should not be. The normal eye accommodates to the varying conditions, and if it fails to do so the vision is defective. The burning glass accustoms the patient to the strong sunlight, and strengthens the eye.

Q—Is the effect of the burning glass and that of sunshine falling on closed eyelids different, so that one needs both kinds each day?
A—The sun treatment with the burning glass is more intensive than without it. At first, patients become accustomed to strong light by sitting in the sun and allowing the sun's rays to shine directly on the closed eyelids, as they slowly move their heads a short distance from side to side. Then, with the burning glass, the strong light of the sun is focused on the closed eyelids, and when the eyes are accustomed to that, one can consider the advisability of focusing the direct rays of the sun upon the eyeball, itself. This is done by lifting the upper lid while the patient looks down. When the sun is focused upon the naked eyeball, one should keep moving the glass from side to side, and for a short time only, so as not to produce discomfort from the heat.

Note by Clark Night; I notice in some doctors' directions for using the sun-glass with CLOSED EYES; they do not say to look far down. I advise looking far down for safety, even when the eyes are closed. Allowing the eyes to look to another direction when they are closed; up, down, sideways, corners... enables the sun-glass light to shine through the closed eyelids onto more areas of the sclera; top, bottom, sides.., but; NEVER place the light on the eye's pupil (even when the eyes are closed). If the doctor prefers to also move the closed eyes to a new position; remove the sun-glass. Then use the sun-glass-apply the light AFTER the closed eyes are in the new position and the pupil is covered-protected. Never place the sunglass and it's light in front of-on the eye's pupil when the eyes are closed or open. Look far down when using the sun-glass with the eyes open. No other direction.

When the eyes are inflamed from disease of the eyelids, the cornea, the iris, the retina, the optic nerve, from glaucoma and other inflammations, the use of the burning glass (sun-glass) has been followed immediately by a lessening of the congestion and a decided improvement in vision.

Many people ask the question: "How long does it take to obtain a sufficient benefit to be noticeable?" When the sun treatment is employed, the improvement in the sight may be demonstrated in a very short time. The sun treatment improves the vision of all patients who are wearing glasses for the relief of pain, fatigue, and imperfect sight, no matter what kind of glasses are worn or how strong they may be. (Do not wear eyeglasses, contact lenses, sunglasses... during any type of sunlight treatment.)

The direct sunlight focused on the white part of the eye is a benefit in many cases of blindness with hardening of the eyeball (glaucoma), or softening of the eyeball (cyclitis), also in cases of cataract, and of opacities in other parts of the eye. It was interesting to observe the improvement in a large number of patients blind from scar tissue on the front part of the eye, the cornea. They were benefited so much that their sight became normal. (Be careful using telescopes, binoculars... My friend burned his cornea, developed a cornea scar that blocked part of his vision due to looking at the bright sky, near the sun with a telescope. The previous user forgot to place the eye protection piece back into the telescope.)

One of the best treatments is to focus the strong light of the sun on the white part of the eye with the aid of a burning glass (sun-glass), which is kept moving from side to side to prevent the discomfort of the heat, while the patient is looking far down. In many cases treatment has accomplished in a few minutes a complete cure of sensitiveness to light. Paul was a boy who came for treatment. His father telephoned before sending his son, telling me that the school authorities had insisted very strongly that he get glasses for Paul, but the father refused to submit to such a thing, until he was sure that nothing else could be done. Paul had never worn glasses and when they were suggested to him, if Dr. Bates could not help him, he wept bitter tears and at times was disobedient, which sometimes called for punishment. Paul came with a written statement from his mother, saying that at the age of five years, he was taken ill with measles and after that sties appeared at intervals, causing an almost constant inflammation of the eyelids. Because Paul had played with a child who was supposed to have an incurable eye trouble, Paul's mother feared that he had acquired this incurable disease also. His eyelids were itchy most of the time and at the advice of an eye doctor a solution of boric acid was used and a medicine called "mecca" was also applied. Paul found some relief from the use of these applications, but the sties appeared just the same and he noticed that the letters on the blackboard at school became less distinct at such times. In 1928 he had scarlet fever, and pink eye began three months previous to his visit to me. Paul's vision with each eye was 10/10 but he strained to see as he read the smaller letters of the test card. The sun was shining through the windows in the room where I was treating him. I placed him in the sun with his **eyes closed** and used the sun-glass rapidly on the edge of his eyelids as well as on the upper and lower lids. This was about midday, and the sun was rather hot so I had to use the glass very *rapidly* in order to avoid any discomfort or burning of the lids. His elder brother who came with him remarked how well the eyelids looked after the sun treatment. This was accomplished in less than an hour's time. After the sun treatment, I placed the test card at ten feet. He read the smallest letters without any effort or strain. Again I placed him in the sun and taught his elder brother how to use the sun-glass while I was occupied with something else. We had to keep Paul busy while he was resting this way, because he was restless and being a perfectly normal healthy boy did not like being quiet. He told me a funny tale and then in turn I told him one and in this way we passed the time away. Finally after another half hour of sun treatment, Paul read all the tests cards with different letters at fifteen feet from his eyes without any trouble whatever. The irritation of the eyelids had disappeared and the itching had stopped, but Paul was told that this might be only a temporary relief and that he would have to take a good deal of sun treatment before he was finally rid of his trouble. He promised to take all the sun treatment he could possibly get by placing himself in the sun, and raising his head so that the sun could shine on his closed eyelids. He was given a test card to practice with daily and to use to show his mother how far away he could read it while blinking and swaying his body from side to side to avoid the stare. Paul and his brother promised to notify Dr. Bates if he needed further help, or if he had any further discomfort with his eyes. Two weeks later, his elder brother came to report that apparently Paul was cured in one treatment because no further complaints came from the school about his having to wear glasses nor did the irritation of the eyelids reappear. I am sure that Paul himself takes time enough for the sun treatment whenever there is sun, because he promised me faithfully that he would do so without troubling any member of his family.

Question - a - How often should the sun-glass be used? **b** - How long on the closed lids before using it on the eyeballs themselves? **c** - Can one use the sunglass on one's own eyes? **Answer - a** - Daily for two or three minutes. (Clarification; minutes are too long for open eyes. Do two or three *seconds* at a time for open eyes; apply, rest one minute, apply. Applying the sunglass for only a few seconds prevents burning the eye. On closed eyes the time can be increased to part of a minute, 5-10 seconds at a time; apply, rest 30+ seconds, apply. Dr. Bates' answer; "two or three minutes" means *the total daily combined time for the closed and open eyes sunning* in intervals; seconds, rest, seconds.) **b** - Usually for several weeks on the closed lids before using it on the eyeballs themselves, although the length of time varies with each individual case. **c** - Some people can, but it is rather difficult and awkward to do. In my experience, the wearing of dark glasses or the use of other methods to reduce the glare of strong daylight or artificial light is an injury rather than a benefit. One of the best methods to relieve or prevent the intolerance of all kinds of light is to encourage the individual to become accustomed to strong light. **Sunglass - A convex glass of about 18 D**. is very useful in these cases. One way to use the glass is to have the patient look far downwards while the instructor lifts the upper lid of the eyeball with the help of the thumb. This procedure exposes a considerable amount of the sclera.

The strong light of the sun is now focused on the white sclera for only *short periods of time* to prevent the heat produced by the strong glass from causing discomfort. (To be safe, I use a much lower D. 'diopter' than 18 D. Check with a professional Bates Method Ophthalmologist)

Dr. Bates examined a patient with the ophthalmoscope and found Keratitis, or inflammation of the front of the eyeball of the left eye. The right eye was normal. While the examination was going on, Albert's sister was weeping. She tried very hard to conceal her tears but in vain. They had been to other doctors and were told that Albert would always have to wear glasses to save the right eye; nothing more could be done for the left eye. The last oculist they consulted said the left eye had cataract and as there was no sight, there was no use to operate. What a shock it was to his family!

I placed Albert in the sun and focused the sunglass on his closed eyelid. Then I raised the upper lid and quickly focused the strong light of the sun on the white part of the eye as he looked down. Immediately he called out to his sister: "I see the light. I can see a sort of web inside of my eye when the light is focused on it." This made me very happy indeed. I knew then that Albert could be benefited.

The light through the sunglass is constantly moving and is used for a short time to prevent the sun from burning the eye. (Closed eyes sun-glass treatment can be longer; part of a minute. Open eyes sun-glass treatment on the sclera is always only for a few seconds. The light is always moved rapidly and continuously on closed eyes sclera and on the open eyes sclera.)

Another one had irritated eyelids, the appearance of which was worse than the discomfort or pain that the boy experienced. He blinked more rapidly than the normal eye does unconsciously. Sun treatment was given to him also. When the mother saw that he had obtained a noticeable amount of relief from the first treatment, she purchased a sunglass and under my supervision she learned how to use the glass on his closed eyelids and in this way all he needed was the one treatment. Note by Clark Night; People use the glass with their family due to most eye doctors hiding this cure.

Dr. Bates discovered many years ago the benefit of strong light on the eyes and I have seen many patients cured by the sun treatment alone. Some of these cases were seriously affected because of their inability to stand even the rays of the sun. It is curious but true that this patient has been benefited mostly by a magnifying glass which focused the light on the white part of each eye as he looked down while the upper lid was raised. In the beginning of his treatment the mere mention of light would make him frown and shrink with fear. Now he enjoys sitting in the sun all day long and realizes that it gives him the greatest benefit. He is steadily improving. While he is not entirely cured, he reads the bottom line of the test card occasionally at ten feet.

Sun treatment is an immediate benefit to many diseases of the eye. Before the treatment, take a record of your best vision of the Snellen test card with both eyes together and each eye separately without glasses. Then sit in the sun with your eyes closed, slowly moving your head a short distance from side to side, and allowing the sun to shine directly on your closed eyelids. Forget about your eyes; just think of something pleasant and let your mind drift from one pleasant thought to another. Before opening your eyes, palm for a few minutes. Then test your vision of the test card and note the improvement. Get as much sun treatment as you possibly can, one, two, three or more hours daily. When the sun is not shining, substitute a strong electric light. A I,000 watt electric light is preferable, but requires special wiring. However, a 250 watt or 300 watt light can be used with benefit, and does not require special wiring. (Full spectrum bulbs, no fluorescent) Sit about six inches from the light, or as near as you can without discomfort from the heat, allowing it to shine on your closed eyelids as in the sun treatment. (Warning; light bulbs can suddenly burn out and break throwing glass into the eye. Avoid other people, pets, clutter so the bulb is not accidently broken by people, pets running by... Do not practice during a lighting storm which can blow out, shatter the electric bulb. Avoid high heat bulbs... that can burn the eyes, skin. NO tanning booths!)

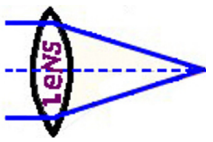
The strong light of the sun focused on the sclera, or white part of the eyeball, with the sun-glass, also improves the vision. After the eyes have become accustomed to the sunlight with the eyes closed, focus the light of the sun on the closed eyelids with the sun-glass. Move the glass rapidly from side to side while doing this for a few minutes. ***NOTE: When looking down, pupil protected under the eyelid; do it gently. No force!***

Then have the patient open his eyes and look as far down as possible, and in this way, the pupil is protected by the lower lid. Gently lift the upper lid so that only the white part of the eye is exposed, as the sun's rays fall directly upon this part of the eyeball. The sun-glass may now be used on the white part of the eye for a *few seconds*, moving it quickly from side to side and in various directions. Notice that after the use of the sun-glass, the vision is improved. When the light is on the sclera, it is normal to see a reflection of the blood vessels in the eye.

Whenever possible she was placed in the sun, and the sunlight was focused on her closed eyelids with the sun-glass. This always improved her vision. When there was no sun, I placed her close to a strong electric light for a half hour or longer. She liked this treatment because the sunlight was so restful to her, and she could read the test card at ten feet. *More of Dr. Bates sun-glass, sunlight articles can be found in his Better Eyesight Magazines by searching in the PDF for; Sunglass, Sun-Glass, Burning Glass, Sun Treatment.*

The Eye is a Natural Sun-Glass

Plain sunlight, closed and open-eyes sunning and sunlight on the sclera without the sun-glass is all that is needed in most cases to return the vision to perfect clarity with healthy eyes. Plain open-eyes and closed-eyes sunning, daily sunlight with the natural eye is the healthiest way to obtain sunlight. The eyes' lens is a double convex ( ) lens. See picture on right. >
It is a perfect, natural, safe sun-glass (burning glass)! The eyes' cornea is also convex. The cornea, aqueous, lens, vitreous... control the amount, focus of light entering and in the eye. The cornea, lens, eye... are the exact shape, thickness, curvature, (diopters) strength, distance, position to perfectly focus-refract, concentrate sunlight in the eyes and on the retina.



For Sun-Gazing, Sunning, Sunlight Practice (No Sun-Glass) ;

Tension, strain can lower the eyes' natural function with sunlight. The mind, body, eyes must be relaxed, happy positive thoughts. Keep good and easy relaxed posture. Avoid twisting the neck, tilting the head to one side. Avoid tensing the face, head, neck muscles. No squinting, staring. Relax, allow movement. Teeth apart-not clenched together. Deep but relaxed, comfortable abdominal breathing. Nose in and out breathing is most relaxing, beneficial. If it is more comfortable; breathe out through the nose and mouth. Yawn to stretch, relax the neck, head... muscles and produce healthy tears. Deep breathing, yawning induces relaxation and brings oxygen, blood, lymph, energy flow to the head, eyes, body.
The brighter the sunlight, the more it relaxes the eyes, mind and body. The best, brightest sunlight is when it's strong, high in the sky; 11am-1pm, but sunburn occurs faster at this time. Also, the head has to be tilted up more and this can tense the neck, unless you sit or lay back. Sunning is best with bare feet on the bare dirt or grass ground because this connects the body with the planet's energy. Native Americans lean against a tree to connect with it's energy into the earth and up into the sky, heaven. Deep breathing strengthens the energy. Sunlight is energy. Full spectrum sunlight contains all colors, frequencies, energy of the light spectrum even more than seen in the rainbow. See the E-book color chart chapter for chi energy circulation, strengthening, movement. Area of the planet, ozone layer should be considered when sunning when the sun is brightest, strongest. When sunning (open and closed eyes), move the head and eyes side to side, up and down... and; see oppositional movement 'the swing' of the sun; the sun appears to move opposite of the direction the eyes, head move to. Shift and blink. Shift the eyes, head across the sun left and right, up, down, diagonally from one side of the sun to the other. Shift to the left and right, top, bottom... area of the sky around the sun. Do the long swing and sway at sunrise and sunset; swing, rock left and right and see the sun appear to move opposite. This helps blind people regain their vision. Practice swaying with the sun shining through a fence to activate massage and saccadic eye movements. (see e-book) Do the figure eight.

Avoid staring at the sun. Do not keep the eyes 'vision' on one area of the sun longer than a fraction of a second. Always keep the eyes (and head with the eyes) moving 'shifting' to a new part of the sun or to the sky every fraction of a second. A continual easy movement. Keep the eyes (where you are looking) moving on and across the sun and sky. Look away from the sun to the sky often. Blink, blink, blink. Staring 'eye immobility' causes eyestrain, eye muscle tension and unclear vision. When the eyes are strained, stare immobile; sunlight feels uncomfortable, is over concentrated on the retina and causes colored light-spots in the visual field lasting for a while. If the sun makes the eyes feel like they need to close 'sleepy'; close the eyes, take a break. Do closed eyes sunning. Take your time building tolerance to open-eyes sunlight. Note; *Sun-Gazing* does NOT mean to stare at the sun, eyes immobile. Always keep the eyes, head moving and look away from the sun often. Limit time the eyes look directly at the sun to a few seconds.

THE USE OF THE SUN GLASS

In using the sun glass, it is well to accustom the eyes of the patient to the strong light by having him sit in the sun with his eyes closed, and at the same time he should slowly move his head from side to side, in order to avoid discomfort from the heat. Enough light shines through the eyelid to cause some people a great deal of discomfort at first, but after a few hours' exposure in this way, they become able to gradually open their eyes to some extent without squeezing the lids. When this stage is reached, one can focus, with the aid of the sun glass, the light on the closed eyelids, which at first is very disagreeable. When the patient becomes able to open the eyes, he is directed to look as far down as possible, and in this way the pupil is protected by the lower lid. Then by gently lifting the upper lid, only the white part of the eye is exposed, while the sun's rays strike directly upon this part of the eyeball. The sun glass may then be used on the white part of the eye. Care should be taken to move the glass from side to side quickly. The length of time devoted to focusing the light on the white part of the eye is never longer than a few seconds. After such a treatment the patient almost immediately becomes able to open his eyes widely in the light.

Most Modern Natural Eyesight Improvement Teachers do not apply the Sunglass Treatment -(Mainly due to fear of the AMA.) Ophthalmologist Bates cured many vision problems, eye diseases, various types of blindness with the Sunglass and Sunlight, Sunning Treatments. Try plain Sunning, Sunlight first.

The Sun-Glass Treatment is to be done by an experienced Bates Method Ophthalmologist, only if necessary in cases of blindness, advanced vision impairment and only after closed eyes and open eyes sunning, daily sunlight exposure; eyes open, looking at, shifting on the bright sunny sky, clouds, trees and other Bates Method Treatments have been tried first.

(Never stare at the sun. See entire directions for the different sunlight treatments in this book.)

If these have not brought light perception, complete vision improvement; the Sun-Glass Treatment may.

Caution; Be aware that certain types of glass... act as a magnifying glass. The sun-glass is a magnifier. Sunlight through the Sun-glass can burn the eye if applied wrong. Only a professional should apply this method;

The glass is never still; the glass is moved continually side to side... causing the light to move quickly on the top white area of the eye. A short time; only a few seconds of light is placed on the eye. Do one eye at a time.

(Patch the eye not being treated with a thick white eyepatch to prevent the eye, pupil from contact with the light of the Sun-glass. Keep the patch open on the outer face side away from the glass to allow plain daylight into that eye to keep both brain hemispheres, eyes active.)

Do not wear any type of eyeglasses, contact lenses, sunglasses, tinted, colored, UV blocking lenses when using the Sun-Glass, open and closed eyes Sunning.

Distance of the glass from the eye must be exact, a specific distance. The time the light is on the eye (white area, sclera only, through eyelids or eyes open) must be brief, a few seconds so the eye is not burned.

It is a certain type of magnifying glass; type, size, thickness, curvature... of the glass, distance, angle from the eye, strength of the sun affects the strength, intensity, concentration of the light rays beam, heat of the sunlight through the glass. The heat increases when the time the light is on the eye increases. The correct amount is relaxing, healthy for the eyes and improves the vision.

The light must never shine on/into the eyes' pupil. Keep the light away from the pupil, iris. Keep the eye, pupil far down, under the lower lid to prevent the light beam from shining into the pupil. Do not move the eyes when the Sun-glass light is on the eye's sclera.

DO NOT BURN THE CORNEA! Keep the light away from it.

Test the intensity of the light, heat, distance of the glass... on the hand, then forehead, then closed eyelids first. Then; Start with eyes closed, look far down. Bring the glass-light beam close, but a safe distance from the eye. Move the light beam on the white area of the eyeball through the closed eyelids. The movement helps to prevent heat. Through closed eyes; notice the size of the light spot on the eye and the blood vessels... in the eye's sclera, retina. Keep the light moving, move it quickly on the upper sclera for a few seconds. (Light is kept *away from the eye's pupil*. Yes, even when the eyes are closed; look far down and keep the light far away from the pupil.)

When the *eyes are closed*; do one eye at a time, and then the light may also be moved over both closed eyes together; side to side, up, down, diagonally, small circles. Also get some light on the eyelids and eyelash area.

Then; Use the Sun-glass with the eyes open; still looking far down, eyes' pupil under the lower eyelid, protected from the light. Do one eye at a time; lift the upper eyelid and move the light quickly side to side, small circles... a few seconds on the white area, upper sclera of the eye. Then repeat the steps with the other eye.

The Sun-glass is a glass. As described on other pages, chapters; all glass, plastic... eyeglasses, windows, sunglasses, contact lenses block out part of the sun's light spectrum causing unhealthy partial spectrum, unbalanced light to exit the glass and travel into the eyes, brain and body. Abnormal energy, chemical reactions also occur. This impairs health, function of the eyes, brain, body and lowers the clarity of vision. For this reason the sun-glass is only used to get the cells, light receptors, capillaries... in the eye, retina, lens back to full life, activity, to bring the vision back. Then the sun-glass is not used. Plain sunlight not passing through glass, plastic is used by practicing open and closed eyes Sunning as described in this chapter.

Sunlight relaxes the eye muscles. Relaxed eye muscles move the eyes easy, perfect shifting and returns the eyes to normal shape with correct focus of light rays on the retina. Sunlight can be a quick cure, speeds eyesight improvement but it is essential that all of Dr. Bates practices are studied and applied to maintain clear eyesight.

Read more directions for Sunning, Sun-Gazing, Sun-glass Treatments in the Natural Eyesight Improvement E-book; Ophthalmologist Bates 'Better Eyesight Magazine' describes this treatment. See; Better Eyesight Magazine; April, May, June, August, October, December, 1926 and November, 1924 and other

'Use of the Sun-Glass, Burning Glass' articles. Better Eyesight article June, 1926 in original antique print is shown on the previous page.

I place the instructions here due to the many cures Dr. Bates, Emily Lierman/Bates and other doctors obtained with the Sun-glass and to enable people to know if their eye doctor is doing the treatment correct and safe. *If a blind person cannot find a doctor; his-her family may learn to apply it and cure the blindness.*

Sun-Gazing; Looking into the sun with the eyes open, while moving the eyes, head/face side to side, keeping the eyes, head/face in movement 'shifting' is still done by some people in various countries, cultures. For sun-gazers that look at the sun with the eyes open; Practice only for 5-10 seconds at a time, always moving the head/face, eyes; shifting side to side, top and bottom... across the sun. Blink often. Never stare into the sun. Application time may vary with certain cultures, countries, treatments by experts.

Avoid areas where the sunlight is concentrated-very strong and where the ozone layer is depleted. Looking at the sun at sunrise, sunset in safe areas of the planet is allowed as long as staring, over-exposure is avoided. People have been looking at the sky, sunrise, sunset for millions of years with benefit.

Due to depletion of the ozone layer, Modern Bates Teachers do not advise looking into the sun with the eyes open. Closed Eyes Sunning only is practiced. Albinos; check with your doctor first for all sunlight treatment.

Looking at the bright areas of the sky, clouds, tree tops with the eyes open on a sunny day is allowed. Do not look at or near the sun during a solar eclipse of the sun. Reflections of sunlight off snow, water and high altitudes increase the sun's strength and chance of eye, skin sunburn. Get used to stronger light a little at a time. Build tolerance. Native African's don't wear sunglasses! Their vision is clear, skin normal. Redheads-light skin needs clothing skin protection, a gradual exposure.

Good nutrition is necessary to maintain the eyes' natural protection-tolerance to sunlight. Sunlight through the eyes and on the skin is necessary to enable the body to absorb, create, function with nutrients, vitamin D, other vitamins, calcium.., minerals and protect the eyes, skin from sunburn, over-exposure to sunlight and to produce-balance-control hormones, chemicals in the brain, body, organs, systems, including melatonin for a normal sleep cycle and serotonin, tryptophan... for a positive state of mind, good mood, happy thoughts, emotions. The eyes need sunlight to remain healthy, keep the vision clear. Most drugs and some herbs impair the vision, eyes' health and natural use of light, light tolerance, protection from over-exposure to sunlight.

Chi, the body's electrical-magnetic energy flow is strengthened by sunlight.
Sunlight contains all colors, frequencies, energy of the light spectrum.

People that had eye surgery (the eye's lens altered, removed, replaced, prescription implants), cornea surgery (part of the cornea removed or altered) or other eye surgeries might not be able to practice certain types of sunlight treatments, *especially the sun-glass*. Plain closed-eyes sunning, possibly some open-eyes sunning and daily sunlight with open eyes not facing the sun might be practiced. But, check with your eye doctor first because; the cornea.., iris, lens, vitreous control the amount of sunlight entering the eyes, prevents over-exposure. An artificial or altered lens in the eye might not function perfectly correct with sunlight as the eye's natural lens. Prescription in the eye is like wearing glasses. A partial and/or altered cornea will not function completely correct with sunlight. Sunlight is necessary to keep the eyes, cornea, iris, lens, retina... healthy. It can help eye, vision problems, surgery to heal. It fights infection. Sunglasses, eyeglasses and avoiding sunlight leads to eye problems, blindness. Use the Bates Method to prevent eye, vision impairment and surgery.

Aspirin, tobacco, some herbs, chemicals and *phony* natural ingredients in skin, hormone creams.., sinus sprays, soap, food impair the body, eyes' health, vision and raise-lower eye pressure to abnormal levels.

SUN TREATMENT. The eyes need sunlight. People who work in mines, where there is no sun, sooner or later develop inflammations of the interior of the eyes. The cloudiness of the lens from cataract is lessened by exposing the eye to the direct rays of the sun. When using the sun treatment, it is best to let the eyes become accustomed to the sun by mild treatment at first. Have the patient sit in a chair with his eyes closed and his face turned toward the sun. He should slowly move his head a short distance from side to side. The movement of the head prevents concentration of the sun's rays on one part of the eye. After some days of treatment, or when the patient becomes more accustomed to the light, one may use the sun-glass with added benefit. Direct the patient to look far down and while he does this, lift the upper lid gently, exposing to view the sclera or white part of the eye. Now, with the aid of the sun-glass focus the sunlight on the forehead or on the cheek, and then rapidly pass the concentrated light over various parts of the sclera. This requires less than a minute of time. It is

Better Eyesight

not well to be in a hurry. One should wait until the patient becomes sufficiently accustomed to the sun to permit the upper eyelid to be raised while he looks far down, exposing the sclera only. It is important that the patient be cautioned not to look directly at the sun.

Prognosis

The cure of cataract is usually accomplished more quickly than the cure of some other diseases of the eye. My assistant, Emily C. Lierman, has had unusual success in treating cataract cases, as she adapts my methods to each individual case. In her book, "Stories from the Clinic," the treatment is described in detail.

Better Eyesight - June, 1920 - SUN-GAZING; *Light is necessary to the health of the eye, and darkness is injurious to it. Eye shades, dark glasses, darkened rooms, weaken the sight and sooner or later produce inflammations. Persons with normal sight can look directly at the sun, or at the strongest artificial light, without injury or discomfort, and persons with imperfect sight are never permanently injured by such lights, though temporary ill effects, lasting from a few minutes to a few hours, days, weeks, months, or longer, may be produced. In all abnormal conditions of the eyes, light is beneficial. It is rarely sufficient to cure, but is a great help in gaining relaxation by other methods.*

Note; The eyes, mind and body are relaxed and benefited by *NATURAL darkness* obtained by closing and Palming the eyes and sleeping at night in normal darkness; television, lights turned off. (moonlight is ok.) It is the darkness, abnormal light produced by sunglasses, tinted lenses, eyeglasses and constant artificial light and avoiding the natural sunlight of the day that injures the eyes, vision and body's health.

The Sun Treatments - For Healthy Eyes, Body & Clear Eyesight

Treatment can also help the blind, advanced vision impairment, cataract, glaucoma, people very sensitive to sunlight due to living in low light, darkness, addiction to sunglasses or many years wearing eyeglasses. Practice in a state of mind-body relaxation. The body, eyes must be free of drugs, medications, eye drops, chemicals. A good diet, nutrition maintained. Avoid eating soy, tofu, certain herbs. They impair the vision, thyroid, hormones and some eye, light functions. (Epileptics affected by flashing, moving light cannot do parts of this practice. See 'Saccadic Sunning' with the tree leaves, fence, hands... page 201. If the eyes had surgery; see the copyright-directions pages beginning of this book and previous sunlight pages.)

Sunlight, Closed and Open-Eyes Sunning, Sunlight on the Sclera and the Sun-Glass Treatment are applied in this way, order; # 1 to 8b. (Take your time. # 7 to 8b can be practiced in the future after the eyes build tolerance to sunlight.)

1 - Expose the open eyes to natural full spectrum sunlight outside. No sunglasses, tinted, colored, UV blocking... lenses. No eyeglasses or contact lenses. No sunscreen, UV blocking skin creams. Bare feet, stand on the earth's land when sunning.
Start by walking around in partial shade under a tree. Wear a white hat with a wide brim if the light feels too strong.

2 - Face the sunlight under the tree, then face directly at the sun through the tree leaves. Blink and move 'shift' the eyes and head/face with the eyes side to side; left, right, left, right, then; up, down... Relaxed, easy, slowly. Then; work your way into the sunlight with, then without the hat. Walk around in the sunlight, look at the tree tops, clouds. Blink, eyes shifting.

3a - Face the bright sky, then sky near the sun with eyes closed. Head, eyes moving. Then with eyes open. Blink, eyes shifting.
Then; close the eyes and face directly at the sun with the hands a few inches in front of the eyes. Do Saccadic Sunning; Open the fingers and move the hands-fingers across the eyes-face; left and right, up and down, diagonally... allowing sunlight and shadows to shine, move upon the closed eyes. The eyes, head move side to side as the hands, fingers move in various directions in front of the eyes. Blink. See the Saccadic Sunning picture, directions on page 201 and smaller picture on this page, bottom right > 3b - Repeat # 3a with eyes open. Blink frequently, keep the eyes, head moving, shifting. Rest.

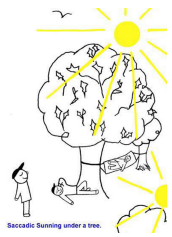
4 - Practice Open-Eyes Sunning, briefly, for a few seconds. (no hands) Face the sun. Keep the eyes and head moving; eyes shifting, blink frequently. Then stop. Rest and Palm. Repeat, then Rest and Palm.
Saccadic Sunning; move the hands-open fingers up and down, left and right, diagonally... in front of the eyes while facing the sun; eyes open, then closed, then open. Eyes, head moving. Blink.
When facing the sun, sunning; a white cloth mask with non-obstructed eyeholes (and nose-mouth breathing holes) is worn to protect the face from sunburn. Get some sunlight on the skin for vitamin D... production and top of the head (no hat) to strengthen chakras, chi energy centers, flow. (When sunning, moving the head, eyes; see the sun 'Swing' opposite.)

5 - Practice the Sunlight on the Sclera 'white of the eye' Treatment. Face the sun. Eyes open. Look down, the eyes' pupils under the bottom eyelids. Pull both eyes' top eyelids up and move the eyes, head side to side to move sunlight upon the top of the eyes' sclera. Then look up and do the bottom sclera. (See directions on previous pages.) Stop the sclera treatment. Rest.

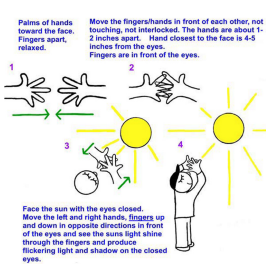
6 - Practice Closed-Eyes Sunning. Face the sun. Move the closed eyes, head/face side to side-left and right, up, down, diagonally, circle the sun counter-clockwise, clockwise, draw the Figure Eight (page 417). The head moves with the eyes in the same direction. Face the sun, sky, sun... Closed eyes sunning can be done for 10-30... minutes. (No sunglasses, eyeglasses..!)

7 - Practice Open-Eyes Sunning, briefly, a few seconds. Keep the eyes and head moving. Head moves with the eyes, in synchronization. Shift on the sun and shift left and right... across the sun to the sky. Blink frequently. Then stop. Rest and Palm. Repeat, then Rest, Palm. Open-eyes sunning can be practiced for a bit longer time as the eyes get used to the sunlight.
If you see a light-spot in the visual field (like a temporary after-image seen after looking at a light bulb or a neon sign at night); stop, limit open-eyes sunning exposure time until the eyes build more tolerance to the sun. Light-spots are red, yellow, green, blue, purple, pink, white, other colors and change color, size as they fade away. Light-spots disappear in a short time. When the eyesight, eyes, mind-visual system are functioning normal, relaxed, healthy, no tension, strain, the vision is clear; there is no sensitivity to sunlight, light-spots are few and fade away quickly. Light spots and other effects can last for months if sunning is done wrong and/or there is tension, strain in the visual system. Limit eye exposure to a few seconds at a time.
Improve adjustment of the eyes, vision, retina, visual purple production, iris-pupil reaction-size to light and dark by alternating; Palming-Sunning-Palming-Sunning. Sunlight, Sunning with Palming improves day and night vision. Sunlight relaxes the mind, body, eyes and eye muscles. The clearer the vision is = the less sensitivity to sunlight.

8a - Use the Sun-Glass Treatment on Closed Eyes. Do one eye at a time. (See entire directions, placement, distance of the glass, heat tests... on previous and next pages. Use only if necessary.) Look far down, the eye's pupil is under the lower eyelid to keep the sun-glass light away from the pupil. Keep the eyes closed. The 'light spot' through the sun-glass is moved rapidly and continuously side to side... 10-15 seconds on the closed eyelid, upon the eye's upper sclera 'white' area, through the eyelid.
Then do the other eye. Alternate on left and right eyes. The eyes can be moved up, down, left, right as long as they stay closed and light does not shine on the pupil. (read previous pages; *don't move the eyes when the sun-glass light is on the eyes.*) The light shines on many areas of the sclera, helps the entire eye through the closed eyelid. Rest. Palm. Repeat if comfortable.
The sun-glass can also be used on both eyes together when the eyes are closed. Light on the closed eyelids IS effective.



8b - Use the Sun-Glass Treatment on Open Eyes. (See complete directions, placement, distance of the glass, heat tests... on previous and next pages. Use only if necessary.) Do one eye at a time. The eyes look far down, the eye's pupil is under the lower eyelid to keep the sun-glass light away from the eye's pupil. Sunlight through the glass must NOT shine into the pupil! (Patch the other eye.) Lift the upper eyelid of the non-patched eye. The light spot exiting the sun-glass is moved rapidly and continuously for only 2-3 seconds on the eye's upper sclera 'white area' of the eye. Stop, rest. Switch the eyepatch to the eye you just treated. Do the sun-glass treatment on the other eye. Stop the sun-glass treatment. Rest and Palm. Walk around in the shade under a tree, alternating to full sunlight. Do a few seconds of open-eyes sunning (no sun-glass); blink and shift the eyes across the sun to get balanced, full spectrum sunlight into the eyes, because; a negative effect of the sun-glass is that it emits unbalanced light. (See next page.) If blind; watch for moving light, shadow when doing sunlight treatments. Watch for flashes of clear or partially clear vision immediately or as time passes. Moving the hands in front of the eyes when facing the sun helps activate the retina, cones, rods, nerves, lens and brain's function with the eyes and appearance of moving light which leads to a return of the vision. *(The Sun-Glass Treatment is used only if necessary, temporarily and is applied only by an experienced Bates Method - Natural Eyesight Improvement Ophthalmologist with many excellent patient references.)*



Precautions, Benefits For the Sun-Glass, Sunlight Treatments

This is an old-time Bates Method treatment. It can heal some types of blindness, advanced eye problems, cataract, glaucoma, help heal the optic nerve... It must be preserved, but; it must be applied correct. Complete old-original and modern directions, warnings must be taught for safety of the Sun-Glass (Burning Glass) because it is a magnifying glass and sunlight passing through a magnifying glass can burn, blind the eye. Dr. Bates is not here now to apply it, teach us how to use it correct. It must not be advised for, given out carelessly to every student.

The Sun-Glass is not needed except sometimes in advanced cases of vision impairment, blindness and should be done only by an expert eye doctor, Ophthalmologist experienced in the Bates Method and only after other Bates' Method practices are tried first. This type of doctor is hard to find so people often apply this method on their own or with a friends' help. Be careful! Study the directions completely and be sure you can trust the friend. Experts with clear enough eyesight and/or perfect perception of the location of the light can do it themselves, but that is still not perfectly safe.

The Sun-Glass is a magnifier, a glass and similar to a strong reading eyeglass prescription; sunlight passing through it becomes very unbalanced, no longer full spectrum, it converts to partial spectrum light and abnormally focused light which is not healthy, it's not the beneficial full spectrum sunlight we get when it's not passing through glass, plastic, windows, eyeglasses... People that use the Sun-Glass every day or weekly... are placing unbalanced, partial spectrum light on their eyes. This continual exposure to unbalanced sunlight waves, frequencies, altered energy is unhealthy. Avoid teachers who advise this overuse of the Sun-Glass. Some teachers use it to appear professional, mysterious, as a tool to attract people as paying customers. Even monthly or less often can be harmful. It is only needed for treating blindness.., some types of eye infections.., and must be a temporary practice! Only an eye doctor or medically trained professional should be in charge of it, apply it. This will prevent misuse.

Using the Sun-Glass inside under artificial light bulbs (which produce unbalanced light) makes the light through the Sun-Glass more unbalanced, unnatural, removes more of the light spectrum, impairs the eyes, retina, lens'... health, function and clarity of vision. Even if you use the best full spectrum light bulb, lamp; the light is not 'perfect' full spectrum as healthy natural pure sunlight not passing through a glass is. A safe type of full spectrum lamp (no fluorescent, no types that are too hot) is good for indoor light and can be used for sunning the eyes when stuck working inside and in low sunlight areas of the planet. But; passing this light through the Sun-Glass makes it partial, unbalanced, unhealthy. The full spectrum lamp can be used with the Sun-Glass for some benefit to the blind if pure sunlight is unavailable. Open all the windows, get a lot of sunlight inside the house.

Used correct, temporarily by an Ophthalmologist, the Sun-Glass treatment with pure sunlight can bring back the eyesight, the eyes' health. But; it's a temporary treatment and is combined with permanent use of the Bates Method and natural full spectrum sunlight NOT passing through the Sun-Glass. The Sun-Glass and Open-Eyes Sunning are not needed for most cases. I DO endorse some open-eyes sunning; few seconds occasionally. It is healthy. Due to depletion of the planet's ozone layer from pollution; Open-Eyes Sunning (and the Sun-Glass Treatment) must be done with care, detailed instructions, precautions must be given. Some areas of the planet have better ozone protection. (The Sun-Glass is NOT Sunglasses.)

Colored spots in the visual field lasting for days, months is a side effect when these treatments are done wrong. Open-eyes sunning can be done safely and with great benefit to the health of the eyes, mind, body and vision. Sunlight is a natural antidepressant, a healer. Vision becomes clear, eyes healthy with use of the Bates Method, avoiding eyeglasses and obtaining natural exposure to normal sunlight by just walking outside daily, looking at the bright sky, clouds, trees, moving the eyes, head/face across the sun with blinking for short periods and using Closed-Eyes Sunning.

I repeat; (The Sun-Glass light never shines on, in the eye's pupil. It shines only on the sclera, white area of the eye.) Do not wear any type of eyeglasses, sunglasses, tinted, colored, UV blocking lenses, contact lenses... while sunning, sun-gazing, applying sunlight on sclera, using the Sun-Glass, any sunlight treatments. Eyeglasses, lenses can act as a magnifying glass causing sunlight through the eyeglass lens to burn the eyes, even when the eyes are closed. The eyeglasses, all lenses impair the natural structure of the suns' light rays causing unbalanced, partial spectrum, unhealthy light to enter the eyes, visual system resulting in eye, vision, health impairment. Do NOT use binoculars, telescopes, magnifiers when facing the sun!

I prefer direct, pure full spectrum, balanced sunlight on the sclera 'white of the eye' (pulling the eyelids up, down while looking in the opposite direction with the eyes' pupils away from the sun. See directions, pictures on previous pages.) without the light passing through the Sun-Glass or any type of glass, plastic, eyeglasses, sunglasses... I also use closed eyes sunning and a bit of occasional open-eyes sunning done correct; look directly at the sun, always with eyes-head moving, keep the eyes shifting, blink often, avoid staring. Move the head/face with the eyes; at the same time, in the same direction. Limit eye exposure time. Protect the skin from sunburn. Avoid skin UV blocking... sunscreen creams. They disrupt the sun's rays.

Do the long swing, sway, figure eight facing the sun and see the illusion of opposite movement 'The Swing'; The sun appears to move opposite of the direction the eyes, head, body move to. Practice it with the eyes closed, open, closed. Try saccadic sunning; face the sun under a tree or in front of a picket or wire fence with openings and rock left and right; see flickering light and shadows. Or, move the hands/fingers in front of the eyes.

I like to watch, copy animals, birds' natural reaction to the sun, their instincts. Some have additional eye-vision functions. Many birds' vision is better than humans, see more light waves... Healthy eyes work best with healthy *full spectrum* sunlight; Good nutrition, diet, no drugs, chemicals...

SUN TREATMENT

Most ophthalmologists prescribe dark glasses to nearly all of their patients who suffer from the brightness of light. This practice, in my opinion, has been overdone. I remember one patient who was in the hospital for two years in a dark room, with both eyes bandaged with a dark binding day and night continuously. When she left the hospital she was in a very pitiable condition. She was practically blind in the bright sunlight. She went to a great many clinics and eye doctors and all they did for her was to give her stronger dark glasses. In time these dark glasses did not give her any relief. Instead of being helpful to her weak eyes, the glasses had the effect of making them more sensitive to the light than they had ever been before. It has been my experience that all persons who wear dark glasses sooner or later develop very serious inflammation of their eyes. The human eye needs the light in order to maintain its efficiency. The use of eye-shades and protections of all kinds from the light is very injurious to the eyes.

Sunlight is as necessary to normal eye as is rest and relaxation. If it is possible, start the day by exposing the eyes to the sun—just a few minutes at a time will help. Get accustomed to the strong light of the sun by letting it shine on your closed eyelids. Later, when you can look down sufficiently, by gently lifting the upper lid the white part of the eye can be exposed, while the sun's rays strike directly on it. It is good to move the head slightly from side to side while doing this, in order to prevent straining. One cannot get too much sun treatment.

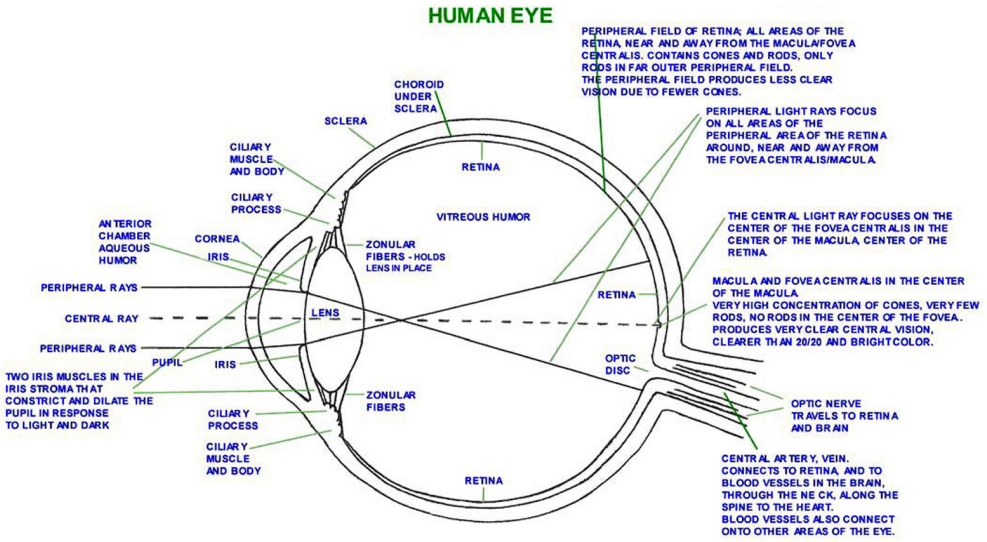
By Dr. Bates; ***Looking at the sun, while slower in its results, has often been sufficient to effect permanent cures, sometimes in a very short time. There is a right way and a wrong way to do this. Persons with imperfect sight should never look directly at the sun at first, because, while no permanent harm can come from it, great temporary inconvenience may result. Such persons should begin by looking to one side of the sun, and after becoming accustomed to the strong light, should look a little nearer to its source, and so on until they become able to look directly at the sun without discomfort.***

This book includes all of Dr. Bates treatments and gives exact directions. If advanced treatment is needed; ask an experienced Bates Method Ophthalmologist. Parts of the sunlight chapter of this book is repetitive. This is to ensure that people learn how to apply the practice correct, safely. Repetition improves the memory, perfect application.

Sunning

Face the sun with the eyes closed and move the eyes, head/face & body slowly side to side, left and right.

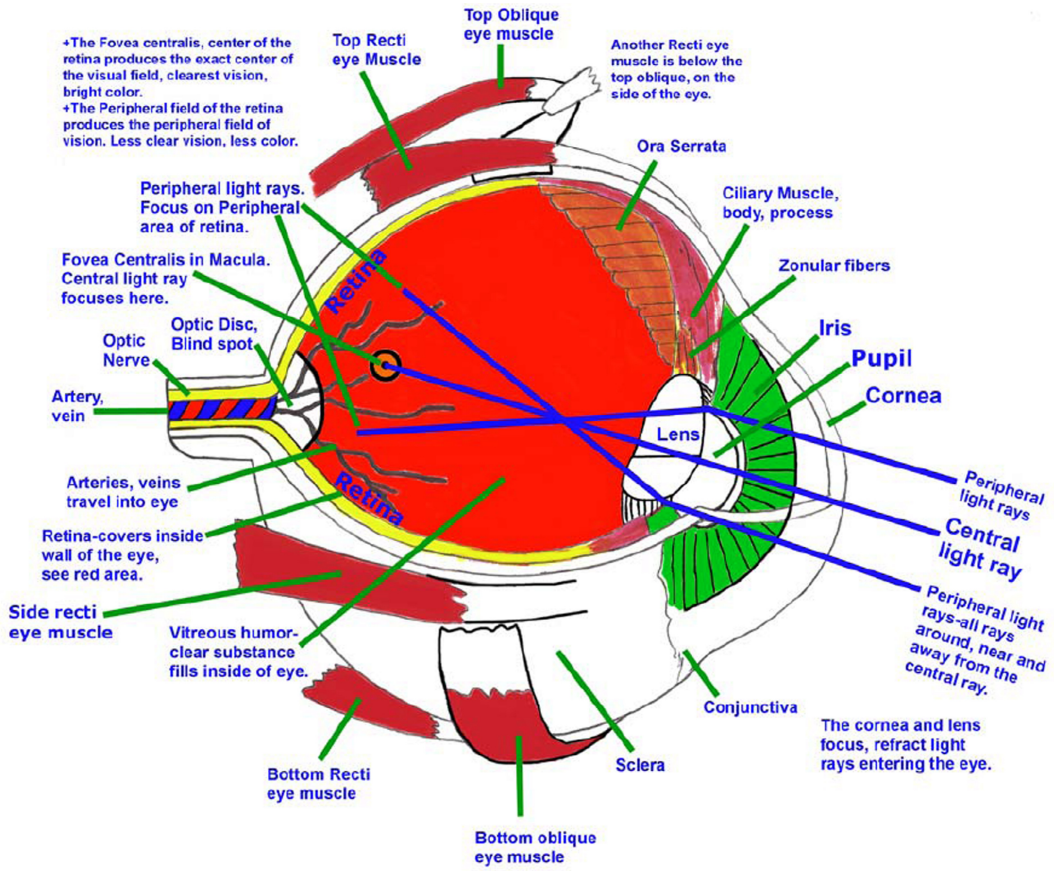
CENTRAL FIXATION - SEE CLEAR WITH THE CENTER OF THE VISUAL FIELD



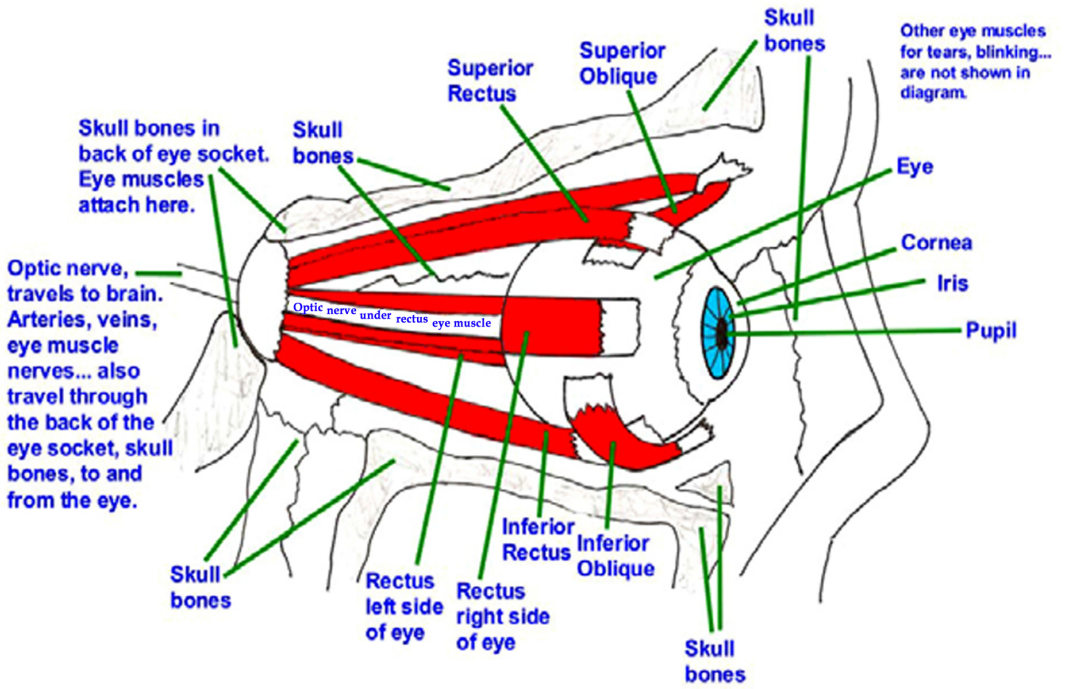
THE RETINA CONTAINS CONES AND RODS - LIGHT, ENERGY RECEPTORS.
CONES PRODUCE VERY CLEAR VISION - CLEARER THAN 20/20 AND BRIGHT COLOR.
RODS PRODUCE LESS CLEAR VISION (20/400) - RODS PERCEIVE GREY/BLACK/WHITE, LIGHT AND DARK BUT NO OTHER COLORS. RODS DETECT MOVEMENT OF OBJECTS IN THE VISUAL FIELD AND CONTINUE TO FUNCTION IN ALMOST COMPLETE DARKNESS.
THE FOVEA AND MACULA IN THE CENTER OF THE RETINA CONTAIN MANY CONES, (ONLY CONES IN THE CENTER OF THE FOVEA) AND PRODUCE VERY CLEAR VISION IN THE CENTER OF THE VISUAL FIELD.
THE PERIPHERAL FIELD OF THE RETINA AROUND, NEAR AND AWAY FROM THE FOVEA/MACULA CONTAINS LESS CONES AND MORE RODS, AND ONLY RODS (NO CONES) IN THE FAR OUTER PERIPHERAL FIELD.
THIS RESULTS IN LESS CLEAR PERIPHERAL VISION, THE FAR OUTER PERIPHERAL FIELD BEING MOST UNCLEAR.
SEE CLEAR WITH CENTRAL FIXATION - A CORRECT VISION HABIT - PLACE THE OBJECT OF VISUAL ATTENTION IN THE CENTER OF THE VISUAL FIELD.
WHEN THE EYES USE THE CENTER OF THE VISUAL FIELD, THE CENTRAL RAY FOCUS PERFECT ON THE CENTER OF THE FOVEA CENTRALIS, RAYS CLOSEST TO THE CENTRAL RAY FOCUS ON THE MACULA, AND PERIPHERAL RAYS FOCUS PERFECTLY ON THE PERIPHERAL FIELD OF THE RETINA RESULTING IN PERFECT CLEAR CENTRAL VISION, CLEARER THAN 20/20 AND MAXIMUM CLARITY AND FUNCTION OF THE PERIPHERAL FIELD. THE CLARITY OF THE ENTIRE VISUAL FIELD IMPROVES.

Video - http://www.youtube.com/watch?v=nIrKuQEJ6y4

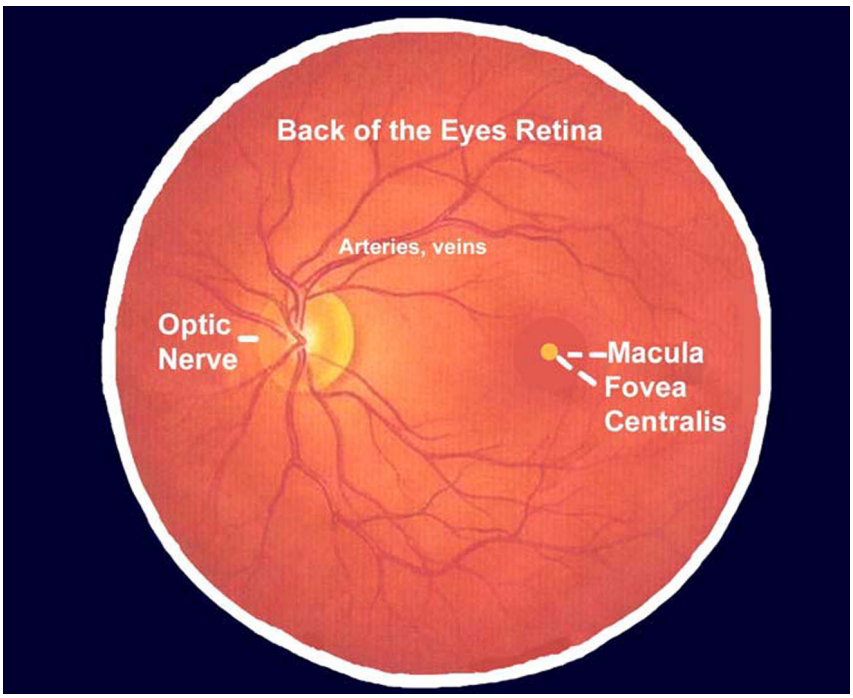
The retina contains cones and rods, light receptors. Cones=very clear vision, bright color. Activated in light. Stops functioning in almost complete darkness.
Rods=Less clear vision, grey, white color. Also senses movement in the visual field and continues to function in very dim light, almost complete darkness.
The macula contains many cones, and a few rods.
The fovea contains a high concentration of cones and no rods.
The peripheral field of the retina contains many rods and some cones with less and no cones into the far outer peripheral.
This is why the center of the visual field is clearest.
See clear by using the Macula, Fovea Centralis, center of the visual field. See much clearer, fine details, brightest color by using the fovea, exact center of the retina, visual field.
The center of the visual field moves with the eyes from object to object, part to part on objects keeping the vision clear.



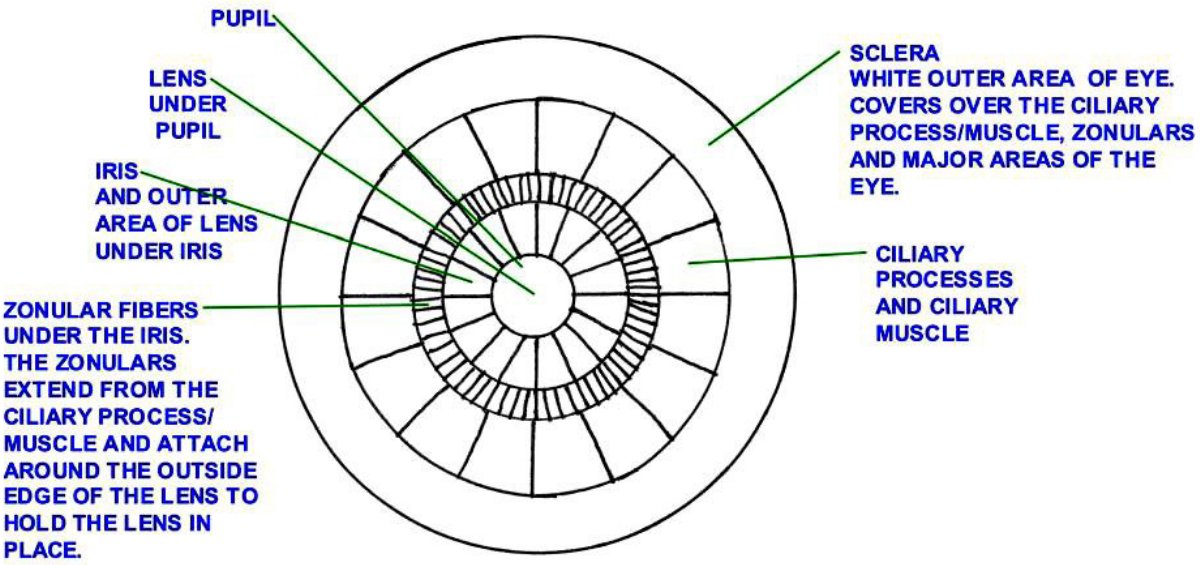
Eye socket, bones, eye, eye muscles, optic nerve.

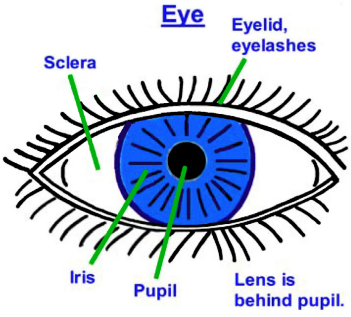


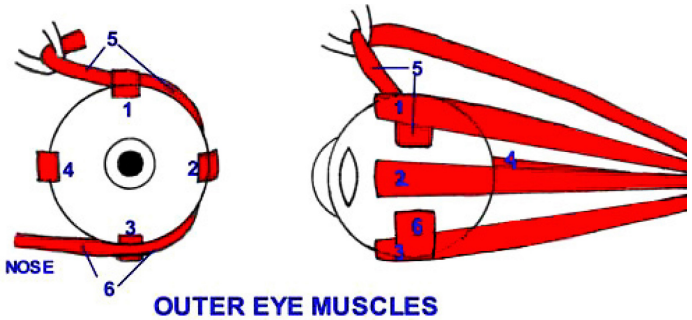
Notice that the eye socket is composed of bone segments, aligned, grown together. These are part of the skull bones. Eye muscles attach to the skull bones in the back of the eye socket. Misalignment of the eye socket or skull bones due to accidents, birth trauma, forcep, suction delivery... can mis-align the bones, place pressure, tension on/in the eye, optic nerve, eye muscles resulting in crossed, wandering eyes, imperfect convergence, divergence, accommodation, un-accommodation, unclear vision, astigmatism and other abnormal eye conditions. Special chiropractors (Cranial, Cranio Sacral Therapy, Osteopathy) can re-align the bones of the skull if needed. Often, use of the Bates method alone can correct eye function and clarity of the vision.



FRONT VIEW OF EYE UNDER SCLERA







OUTER EYE MUSCLES
RECTI - # 1, 2, 3, 4
OBLIQUE - 5, 6

More pictures, true stories are in Dr. Bates Better Eyesight Magazine and Medical Articles. Where are Dr. Bates' patient medical, office records? Were they destroyed by dishonest people who want to hide his effective natural method? Did honest doctors or Bates teachers preserve his records; all the different eye-vision conditions he treated, the natural treatment, practices he applied. Are they hidden in Ophthalmology colleges or... due to laws, doctors still trying to hide the Bates Method?

Glasses are often prescribed unnecessarily or 'too strong' (over-corrected) due to temporary nervousness, pressure to hurry, limited eye, head, neck, body movement, looking into test equipment during an eye exam. Eye doctors also prefer to prescribe an 'extra strength' to the eyeglass lenses. All eyeglasses, especially strong eyeglass lenses cause fast, increased vision/eye impairment and prescriptions for stronger and stronger lenses.

Some years ago an English gentleman wrote to me that his glasses were very unsatisfactory. They not only did not give him good sight, but they increased instead of lessening his discomfort. He asked if I could help him, and since relaxation always relieves discomfort and improves the vision, I did not believe that I was doing him an injury in telling him how to rest his eyes. He followed my directions with such good results that in a short time he obtained perfect sight for both the distance and the near-point without glasses, and was completely relieved of his pain. Five years later he wrote me that he had qualified as a sharpshooter in the army. Did I do wrong in treating him by correspondence? I do not think so.

After the United States entered the European war, an officer wrote to me from the deserts of Arizona that the use of his eyes at the near-point caused him great discomfort, which glasses did not relieve, and that the strain had produced granulation of the lids. As it was impossible for him to come to New York, I undertook to treat him by correspondence. He improved very rapidly. The inflammation of the lids was relieved almost immediately, and in about four months he wrote me that he had read one of my own reprints—by no means a short one—in a dim light, with no bad after effects; that the glare of the Arizona sun, with the Government thermometer registering 114, did not annoy him, and that he could read the ten line on the test card at fifteen feet almost perfectly, while even at twenty feet he was able to make out most of the letters.

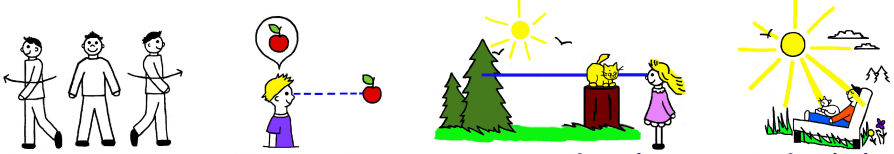
A third case was that of a forester in the employ of the U. S. Government. He had myopic astigmatism, and suffered extreme discomfort, which was not relieved either by glasses or by long summers in the mountains, where he used his eyes but little for close work. He was unable to come to New York for treatment, and although I told him that correspondence treatment was somewhat uncertain, he said he was willing to risk it. It took three days for his letters to reach me and another three for my reply to reach him, and as letters were not always written promptly on either side, he often did not hear from me more than once in three weeks. Progress under these conditions was necessarily slow; but his discomfort was relieved very quickly, and in about ten months his sight had improved from 20/50 to 20/20.

In almost every case the treatment of cases coming from a distance is continued by correspondence after they return to their homes; and although the patients do not get on so well as when they are coming to the office, they usually continue to make progress till they are cured.

At the same time it is often very difficult to make patients understand what they should do when one has to communicate with them entirely by writing, and probably all would get on better if they could have some personal treatment. At the present time the number of doctors in different parts of the United States who understand the treatment of imperfect sight without glasses is altogether too few, and my efforts to interest them in the matter have not been very successful. I would consider it a privilege to treat medical men without a fee, and when cured they will be able to assist me in the treatment of patients in their various localities.

The Main Natural Eyesight Improvement Practices. Fast Clear Eyesight.
Easy to learn with pictures, quick directions.
Practice the 10 steps and see clear, often in a few minutes to 1-2 days.

1-Relaxation 2-Shifting 3-Central Vision 4-Blinking 5-Breathing



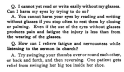
6-Movement (with Opposite Swing) 7-Memory, Imagination 8-Switching 9-Sunlight

10-Fine Print

Read Fine Print

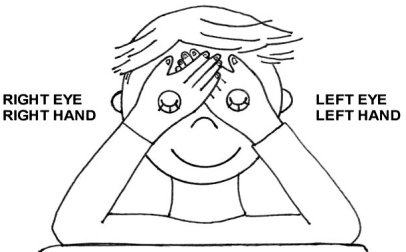
ALL of our imperfect sight is just the result of our using our eyes wrong, and permitting bad habits to grow on us. Staring is only a bad habit, but it causes a great deal of trouble. When it is stopped and the eyes are rested by palming and blinking, the sight is immediately benefited.

Microscopic print



PALMING

TO COVER THE CLOSED EYES WITH THE PALMS OF THE HANDS WHILE RELAXING AND THINKING SOMETHING PLEASANT.

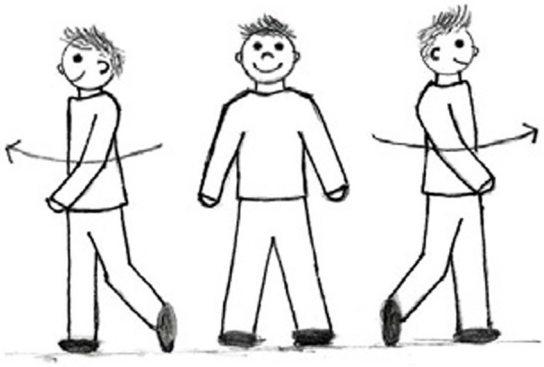


THE FINGERS OF THE RIGHT HAND CROSS OVER, ON TOP OF THE LEFT HANDS FINGERS, IN THE CENTER OF THE FOREHEAD.

THIS PICTURE SHOWS THE LEFT AND RIGHT HANDS/EYES OF A PERSON FACING THE READER.
TO SEE HOW THE READERS HANDS ARE PLACED; VIEW THIS PICTURE IN A MIRROR OR PLACE THE PICTURE OUTWARD ON THE CHEST AND LOOK DOWN AT THE PICTURE FOR A SECOND.

PALMING RELAXES THE MIND, BODY, NECK, EYE MUSCLES, EYES, AND WHEN COMBINED WITH SUNNING IMPROVES THE EYES/RETINA, BRAIN AND BODY'S ACTIVATION/REACTION TO SUNLIGHT AND ABSORPTION, USE OF SUNLIGHT. THIS IMPROVES FUNCTION, HEALTH OF EYES, BRAIN, BODY.

THE LONG SWING



TURN AND SWING RIGHT — CENTER — TURN AND SWING LEFT.

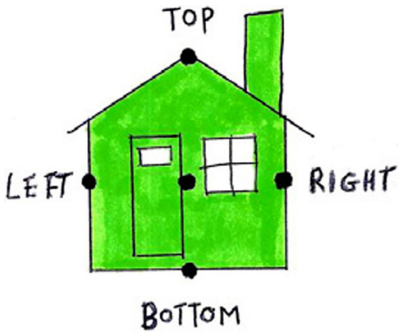
See page 163, 170-172 & 207 for the Long Swing & Sway (Rock) Examples-Directions.

SHIFTING 'EYE MOVEMENT' - The Eyes (Visual/Mental Attention) SHIFT 'MOVE' continually from part to part on a object and from object to object. It is easy to see clear by shifting from one small part to another small part on an object, seeing one small part at a time clearest as the eyes, (macula/fovea in the center of the retina, 'the central field') move upon each part, one at a time. Blink, Breathe, and Relax. The macula/fovea contains many cones 'light receptors' which produce very clear vision. In reality; The EXACT CENTER OF THE VISUAL FIELD, the eyes *FOVEA's center* moves POINT TO POINT upon the object as the eyes shift from part to part. This occurs subconsciously, automatic and enables the eyes to see very tiny parts, fine details crystal clear at any distance, close or far. Use it consciously, relaxed, without effort to improve the vision. The fovea may be on a small part (point) for only a fraction of a second before moving to another part. During that time, that part is in the central field and seen clearest. The eyes shift continually, easy moving the macula/fovea (central field) from object to object, part to part on an object causing the entire visual field, all objects, all parts of objects to appear perfectly clear. In reality, the part the eyes are looking directly at, in the central field is most perfectly clear, better than 20/20. The part of the macula, fovea around the fovea's center produce the central area of the visual field that is very close to the exact central field. Those areas are also very clear. The eyes-brain pick it up along with the entire visual field. *The fovea, exact center is most clear.* Look at a street sign 100 feet away. Look 1 foot to the side of it; it's not perfectly clear. Look directly at it; it's seen perfectly clear. Shift.

Shifting is combined with Central-Fixation. Look at a tiny object; a small letter E. Notice the eyes (fovea) continue to move 'shift' upon that small E. Try keeping the eyes immobile (staring) and note that tension begins, leads to strain and unclear vision. Let the eyes (where you are looking) move. Blink. Note relaxation and clarity occurs. See the central best! Read about Central-Fixation in this book.

Practice shifting.., then DONT PRACTICE; Let the eyes move, function completely natural on their own. Notice vision is very clear when you are not thinking about the eyes, clarity of vision. Practice Dr. Bates methods relaxed, no effort. Eyes-vision work as the sense of touch, taste, as the heart beats, lungs breathe automatic 'on their own'. This is the optimum visual system, *eyes, mind, body* function.

SHIFT ON THE HOUSE, DOT TO DOT.



Shifting on the dots in the pictures is only to learn shifting. When looking at real objects; do not imagine dots on the the object. Shift on the object in any direction, pattern from one small part to another small part. Blink and relax.

SHIFT IN ANY DIRECTION/PATTERN.

THE DIAGRAM ABOVE SHOWS A EXAMPLE OF THE NATURAL SHIFTING PATTERN OF THE EYES. NOTICE THE EYES (vision) MOVE FREELY ON THE HOUSE IN A VARIETY OF PATTERNS, DIRECTIONS.

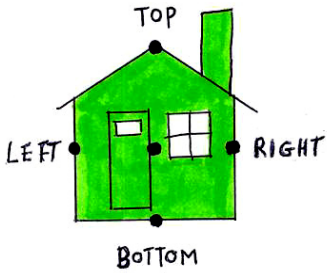
'DO IT YOURSELF' - BATES METHOD - NATURAL EYESIGHT IMPROVEMENT; PRACTICE OF SHIFTING, CENTRAL-FIXATION (Centralizing) AND OTHER RELAXED, NATURAL, CORRECT VISION HABITS. (Practicing, Imitating The Normal Function Of The Eyes, Visual System). The NOSEFEATHER.

CORRECT, RELAXED VISION HABITS

Practice Correct Vision Habits and other Natural Vision Improvement activities without eyeglasses. When wearing glasses-continue to use Correct Vision Habits; Shifting, Central-Fixation...

SHIFTING

Shifting is a Natural Eye Function and is practiced as a Correct, 'Relaxed' Vision Habit. Correct Vision (Eyesight) Habits; Shifting, Central-Fixation, Relaxation, Memory & Imagination, Movement, Blinking, Abdominal Breathing, Switching... are 'the normal function of the eyes, brain, body' (visual system).
Practice of Shifting, Central-Fixation.., Correct Vision Habits is 'imitating, activating normal, correct function of the eyes, brain, visual system'. Practice, imitate correct eye function, relaxed vision habits as a easy, effortless 'habit', all the time.
With a little practice, the eyes, eye muscles, brain, body (Visual system) will return to normal function, relaxation and Correct Vision Habits will be activated, occur 'on their own', all the time, as a automatic, subconscious habit, maintaining relaxation and clear vision at all distances. (Just as the heart beats, lungs breathe automatically, without conscious control, direction, without thinking about it.) Then, the student will consciously practice only occasionally if needed to prevent staring, squinting, blur-a tune-up to remind the visual system to stay with correct, relaxed function.

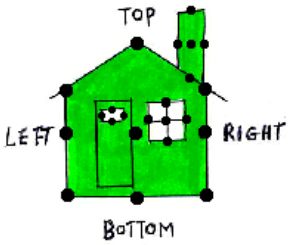


Shifting; eye movement; to move, shift the eyes (visual attention, center of the visual field) from one small part of a object to another small part.
To see a object clear, the eyes 'Shift' - The eyes, visual attention, central field moves continually, easily from point to point (small part to small part) on the object. This is the normal function of the eyes.
Shifting also occurs when the eyes look from one object to another object at different locations and distances in the visual field.
Central-Fixation (using the center of the visual field) is combined with shifting. See next section for Central-Fixation pictures, practice.

Staring; eye immobility, squinting, straining, trying hard, using effort to see clear are Incorrect Vision Habits that cause mental strain, eyestrain, eye muscle tension, neck, shoulder tension and unclear vision. Even a small amount of effort lowers the clarity of vision.
Natural Vision Improvement Teacher, Clara Hackett says; Staring is the main Incorrect Vision Habit that causes tension, strain and unclear vision. Correct Vision Habits are natural and relax the eyes, mind, visual system, produce clear vision.
Shifting 'eye movement' relaxes the mind, body, eye muscles, eyes, and brings clear vision. Shifting prevents staring and unclear vision.

Example;

Look at the picture of the green house.
The dots on the house represent small parts of the house.
Practice shifting from small part to small part on the house by moving the eyes (visual attention/center of the visual field) on the dots;
Shift from dot to dot on the house.
Look at the dot on the left side of the house, then shift to the dot on the



right side, then left, right, left...
Then shift to the dot on the top, then shift to the dot on the bottom. Shift top, bottom, top, bottom...
Shift on the dots (small parts of the house) in any order, direction; left and right, top and bottom, middle, top to right or left, right to bottom...

Avoid staring at a dot; let the eyes move, shifting continually, easy, relaxed from dot to dot.
Even when looking at a dot; the eyes move, shift point to point on the dot. Blink and relax.
Shift to other small parts near the dot and back to the dot in any direction.
(Point to point=central-fixation-using the exact center of the visual field. The exact center is a small point that produces clearer than 20/20, perfect, fine detailed vision. This is produced by the center of the fovea centralis in the center of the eyes macula, retina.)

Shift without the dots; corner to corner, corner to middle, to top, to side and to any part in any order, direction.

Shift on small parts; window; left side of window, right side, top, bottom, corners, middle.., window pane; small part to small part of the window pane, door, chimney, bricks in the chimney...

Shift continually, relaxed, easy from one small part to another.
Shifting keeps the image of the house clear.
This 'shifting' occurs even when the eyes look at a very small object at any distance, close or far.

The eyes do not have to shift in a straight line.
The normal function of the eyes is to move the visual attention, center of the visual field from point to point on objects in a variety of patterns.
Let the eyes move freely in any direction from one small part of the house to another small part. Look for small fine details, without effort. Relax and shift from tiny detail to tiny detail (Point to point - perfect central-fixation.)

(See the eye movement pattern pictures of the house on the right > and on the next page.)

THE DIAGRAM ABOVE SHOWS A EXAMPLE OF THE NATURAL SHIFTING PATTERN OF THE EYES. NOTICE THE EYES (vision) MOVE FREELY ON THE HOUSE IN A VARIETY OF PATTERNS, DIRECTIONS.

Blink soft, easy, and relax.
Blinking causes the eyes to shift automatically.
Blinking coats the eyes with healthy tears and increases normal tear production. Tears improve the clarity of vision by nourishing, moisturizing the cornea, eyes and acting as a natural contact lens.

See Blinking in chapter 12.

Relax, breathe slow, abdominally.

The head/face and body move with the eyes, in synchronization, at the same time, in the same direction the eyes shift to. Face directly at the object the eyes are looking at.
The eyes, head/face, neck, shoulders and body are loose, relaxed and move freely.

The correct way to practice shifting is; to shift (move) the eyes (and head/face with the eyes) from one small part to another small part on the object, shifting from point to point, relaxed, slowly, easy, continually. Shift from object to object in the scenery. Read Dr. Bates Shifting article on the next pages.
Do this when looking at any size object, large or small, at any distance close, middle and far. Avoid trying hard to do this. Let the eyes do it naturally.

As slow relaxed shifting is practiced, the brain, eyes begin to return to normal function and the faster 'Saccadic', high frequency, tiny, microscopic, and other natural shifts/eye movements also improve and occur automatically, a subconscious function producing very clear vision, clearer than 20/20.

Avoid trying to shift fast. Practice shifting slow and easy and the eyes will automatically move quickly, easy, point to point, part to part, object to

object. Let faster shifts occur 'on their own', a automatic, subconscious eye, brain (visual system) function. Then, when shifting improves, it's easy, vision clearer; practice faster shifts, but always let the eyes control the movement-avoid effort, force. Stay relaxed. The eyes can read an entire eyechart clear in a couple seconds, sometimes less when the eyes, mind are relaxed, vision clear.

Shift in a carefree manner, without effort. Don't try to see clear. Clear vision will occur on its own. Constantly thinking about how the eyes should function and worrying about the clarity of vision, forcing the eyes to move a certain way causes strain in the mind, eye muscle tension, interferes with the eyes natural, normal function and prevents clear vision from occurring.

Relax, Forget About The Eyes. Vision becomes clear when the mind is not worrying, not thinking about the eyes, clarity of vision, not forcing the sight to be clear.

Practice shifting, then, don't practice; let the eyes shift on their own, completely natural, a automatic function, habit.

If the eyes stare, move infrequently; practice shifting, central-fixation again. Relax and shift to prevent blur. With practice, shifting occurs on its own, all the time, the normal function of the eyes, a automatic, subconscious habit, function maintaining clear vision.

Flashes of clear vision will occur lasting a few seconds or longer. Avoid trying to hold onto the flash by staring, freezing up with the eyes, body immobile. Relax, keep shifting, moving, blink, breathe and flashes of clear vision will return, last longer, become permanent.

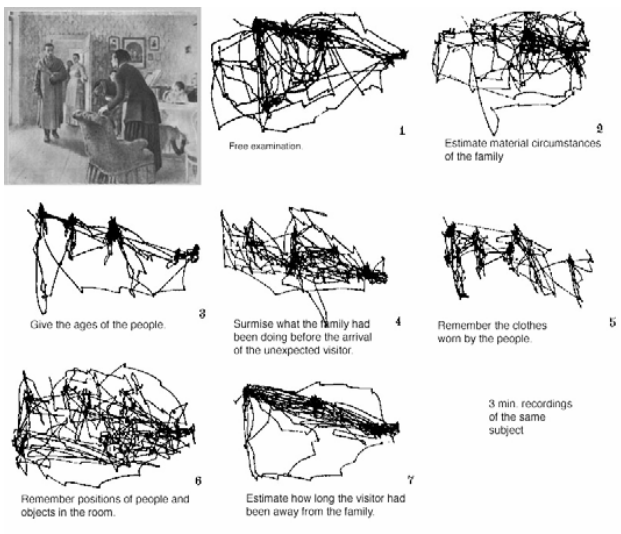
Remember, It Is Normal For The Clarity Of Vision To Fluctuate - clear, less clear and back to clear. Avoid eyeglasses. Shift to see a object clear and the clarity returns to 20/20. Natural Vision Improvement keeps the vision clearer than 20/20 and fluctuations are not usually noticed.

Practicing Shifting is not a Eye Exercise. The Natural Vision Improvement Student practices shifting to gently nudge, direct, coax the eyes, visual system back to correct function.
Staring, eye immobility, squinting, trying hard to see clear causes strain, tension and unclear vision.
Shifting, eye movement relaxes the mind, eyes and produces clear vision.

Now; try shifting on the smaller house, smaller parts of the house, pictures.

Then, practice shifting on any size objects in your environment at any distances, close, middle and far. Shift as a fun habit throughout the day, night.
+Practice shifting on small parts of far objects for clear distant vision.
+Practice shifting on small parts of close objects for clear close vision. (Read Fine Print.)
+Shift from object to object in the visual field, the eyes moving continually, easy, relaxed.

Blink. Blinking activates automatic eye shifting. Relax, Enjoy the scenery!



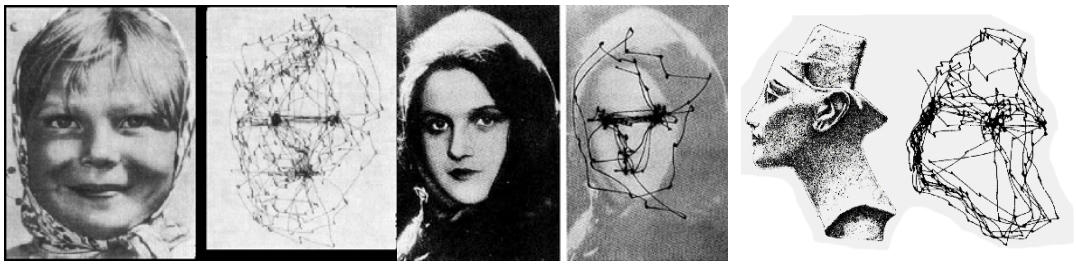
Click the video links for shifting practice and other Natural Vision Improvement videos;
Shifting, Central-Fixation Videos:
http://www.youtube.com/watch?v=IkQ9KEpA8zE http://cleareyesight.info/id93.html - http://www.youtube.com/watch?v=WO9AS4A8f_c
See the Videos Chapter & audio lessons in each chapter of the E-Book.

Eye Movements - Shifting, Saccades, with Central Fixation as the person looks at objects, people in the scene, thinks about them...

Thoughts in a person's mind, what the mind is thinking about the objects the eyes are looking at, other thoughts, images in the mind, shape, movement. of the objects also affects eye movements.
Notice how the eyes, visual attention, (exact

center of the visual field) move freely as the person looks at objects, thinks various thoughts. See the central field, visual attention move point to point on parts of objects and from object to object.
A persons thoughts produce eye movements when the eyes are open looking at objects and when closed thinking about subjects, objects using the memory, imagination.
+Relaxation improves the memory, imagination and vision.
+Improving the memory, imagination and relaxation improves the clarity of vision.

More Eye Movements with Central-Fixation, Fixations



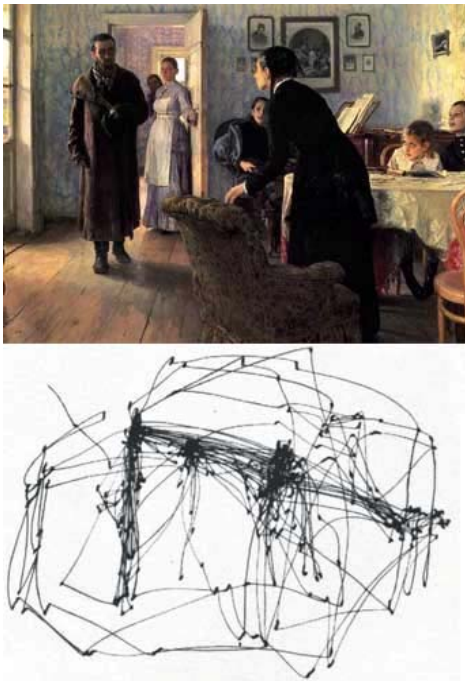
Shift part to part on a picture. Then, close the eyes, remember the picture clear and shift part to part on the picture in the mind. Feel the eyes move. Notice that the shifting, (eye movement) keeps the picture clear, visible when the eyes are open and in the mind, memory, imagination when closed.

Saccades

Natural Eye Movement Patterns

Click Here - Eye Movement Pattern Pictures

Read the book-Eye Movements and Vision by Alfred L. Yarbus.



The eyes, visual attention, 'center of the visual field' moves from object to object, part to part (point to point) on objects for clear vision. Thoughts in the mind, movement, shape... of objects affect the eyes movement pattern. See the picture of the eyes movement when looking at people, objects in the room.

When the vision is clear, eyes normal, relaxed - eye movement is frequent, easy and a variety of movement occurs and tiny saccadic shifts occur often. The eyes look at, shift point to point on small parts of objects, see tiny details clear = 'Central-Fixation'.

When the vision is unclear, eyes tense, the movement is less, movements are stiff, mainly longer. Small and tiny, detailed saccadic eye movements, shifting is reduced. Eye muscle tension and blur increases.

Relax and shift for clear vision. Blink.

Eyeglasses block, reduce natural eye shifting movements, Saccadic shifts.
Avoiding eyeglasses, practicing relaxation and shifting relaxes the mind, eye muscles, eyes. All eye movements return to normal, saccadic shifts are frequent, convergence, divergence, accommodation, un-accommodation eye movements also return to normal, perfect movement for clear vision at all distances.

SHIFTING AND SWINGING

By Ophthalmologist William H. Bates

From Dr. Bates Book; 'The Cure of Imperfect Sight By Treatment Without Glasses' & 'Better Eyesight Magazine'.

WHEN the eye with normal vision regards a letter either at the near-point or at the distance, the letter may appear to pulsate, or to move in various directions, from side to side, up and down, or obliquely. When it looks from one letter to another on the Snellen test card, or from one side of a letter to another, not only the letter, but the whole line of letters and the whole card, may appear to move from side to side. This apparent movement is due to the shifting of the eye, and is always in a direction contrary to its movement. If one looks at the top of a letter, the letter is below the line of vision, and, therefore, appears to move downward. If one looks at the bottom, the letter is above the line of vision and appears to move upward. If one looks to the left of the letter, it is to the right of the line of vision and appears to move to the right. If one looks to the right, it is to the left of the line of vision and appears to move to the left.

Persons with normal vision are rarely conscious of this illusion, and may have difficulty in demonstrating it; but in every case that has come under my observation they have always become able, in a longer or shorter time, to do so. When the sight is imperfect the letters may remain stationary, or even move in the same direction as the eye.

It is impossible for the eye to fix a point longer than a fraction of a second. If it tries to do so, it begins to strain and the vision is lowered. This can readily be demonstrated by trying to hold one part of a letter for an appreciable length of time. No matter how good the sight, it will begin to blur, or even disappear, very quickly, and sometimes the effort to hold it will produce pain. In the case of a few exceptional people a point may appear to be held for a considerable length of time; the subjects themselves may think that they are holding it ; but this is only because the eye shifts unconsciously, the movements being so rapid that objects seem to be seen all alike simultaneously.

The shifting of the eye with normal vision is usually not conspicuous, but by direct examination with the ophthalmoscope it can always be demonstrated. If one eye is examined with this instrument while the other is regarding a small area straight ahead, the

eye being examined, which follows the movements of the other, is seen to move in various directions, from side to side, up and down in an orbit which is usually variable. If the vision is normal these movements are extremely rapid and unaccompanied by any appearance of effort. The shifting of the eye with imperfect sight, on the contrary, is slower, its excursions are wider, and the movements are jerky and made with apparent effort.

It can also be demonstrated that the eye is capable of shifting with a rapidity which the ophthalmoscope cannot measure. The normal eye can read fourteen letters on the bottom line of a Snellen test card, at a distance of ten or fifteen feet, in a dim light, so rapidly that they seem to be seen all at once. Yet it can be demonstrated that in order to recognize the letters under these conditions it is necessary to make about four shifts to each letter. At the near-point, even though one part of the

Rapidity of Eye's Motion

letter is seen best, the rest may be seen well enough to be recognized; but at the distance it is impossible to recognize the letters unless one shifts from the top to the bottom and from side to side. One must also shift from one letter to another, making about seventy shifts in a fraction of a second.

A line of small letters on the Snellen test card may be less than a foot long by a quarter of an inch in height; and if it requires seventy shifts to a fraction of a second to see it apparently all at once, it must require many thousands to see an area of the size of the screen of a moving picture, with all its detail of people, animals, houses, or trees, while to see sixteen such areas to a second, as is done in viewing moving pictures, must require a rapidity of shifting that can scarcely be realized. Yet it is admitted that the present rate of taking and projecting moving pictures is too slow. The results would be more satisfactory, authorities say, if the rate were raised to twenty, twenty-two, or twenty-four a second.

The human eye and mind are not only capable of this rapidity of action, and that without effort or strain, but it is only when the eye is able to shift thus rapidly that eye and mind are at rest, and the efficiency of both at their maximum. It is true that every motion of the eye produces an error of refraction ; but when the movement is short, this is very slight, and usually the shifts are so rapid that the error does not last long enough to be detected by the retinoscope, its existence being demonstrable only by reducing the rapidity of the movements to less than four or five a second. The period during which the eye is at rest is much longer than that during which an error of refraction is produced. Hence, when the eye shifts normally no error of refraction is manifest. The more rapid the unconscious shifting of the eye, the better the vision; but if one tries to be conscious of a too rapid shift, a strain will be produced.

Perfect sight is impossible without continual shifting, and such shifting is a striking illustration of the mental control necessary for normal vision. It requires perfect mental control to think of thousands of things in a fraction of a second; and each point of fixation has to be thought of separately, because it is impossible to think of two things, or of two parts of one thing, perfectly at the same time. The eye with imperfect sight tries to accomplish the impossible by looking fixedly at one point for an appreciable length of time; that is, by staring. When it looks at a strange letter and does not see it, it keeps on looking at it in an effort to see it better. Such efforts always fail, and are an important factor in the production of imperfect sight.

One of the best methods of improving the sight, therefore, is to imitate consciously the unconscious shifting of normal vision and to realize the apparent motion produced by such shifting. Whether one has imperfect or normal sight, conscious shifting and swinging are a great help and advantage to the eye; for not only may imperfect sight be improved in this way, but normal sight may be improved also. When the sight is imperfect, shifting, if done properly, rests the eye as much as palming, and always lessens or corrects the error of refraction

The Shift That Rests

The eye with normal sight never attempts to hold a point more than a fraction of a second, and when it shifts, as explained in the chapter on 'Central Fixation,' it always sees the previous point of fixation worse. When it ceases to shift rapidly and to see the point shifted from worse, the sight ceases to be normal, the swing being either prevented or lengthened, or (occasionally) reversed. These facts are the keynote of the treatment by shifting.

In order to see the previous point of fixation worse, the eye with imperfect sight has to look farther away from it than does the eye with normal sight. If it shifts only a quarter of an inch, for instance, it may see the previous point of fixation as well as or better than before; and instead of being rested by such a shift, its strain will be increased, there will be no swing, and the vision will be lowered. At a couple of inches it may be able to let go of the first point; and if neither point is held more than a fraction of a second, it will be rested by such a shift and the illusion of swinging may be produced.

The shorter the shift the greater the benefit; but even a very long shift - as much as three feet or more - is a help to those who cannot accomplish a shorter one. When the patient is capable of a short shift, on the contrary, the long shift lowers the vision. The swing is an evidence that the shifting is being done properly, and when it occurs the vision is always improved. It is possible to shift without improvement; but it is impossible to produce the illusion of a swing without improvement, and when this can be done with a long shift, the movement can gradually be shortened until the patient can shift from the top to the bottom of the smallest letter, on the Snellen test card or elsewhere, and maintain the swing. Later he may become able to be conscious of the swinging of the letters without conscious shifting. (The Swing: Natural illusion of movement of the object, in the opposite direction the eyes, visual attention shift, move to, upon the object; Oppositional Movement.)

No matter how imperfect the sight, it is always possible to shift and produce a swing, so long as the previous point of fixation is seen worse. Even diplopia and polyopia 1 do not prevent swinging with some improvement of vision. Usually the eye with imperfect vision is able to shift from one side of the card to the other, or from a point above the card to a point below it, and observe that in the first case the card appears to move from side to side, while in the second it appears to move up and down.

When patients are suffering from high degrees of eccentric fixation, it may be necessary, in order to help them to see worse when they shift, to use some of the methods described in the chapter on "Central Fixation." Usually, however, patients who cannot see worse when they shift at the distance can do it readily at the near-point, as the sight is best at that point, not only in myopia, but often in hypermetropia as well. When the swing can be produced at the near point, the distance can be gradually increased

until the same thing can be done at twenty feet. After resting the eyes by closing or palming, shifting and swinging are often more successful. By this method of alternately resting the eyes and then shifting, persons with very imperfect sight have sometimes obtained a temporary or permanent cure in a few weeks.

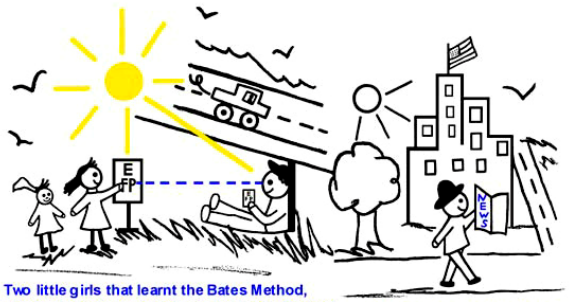
Shifting may be done slowly or rapidly, according to the state of the vision. At the beginning the patient will be likely to strain if he shifts too rapidly ; and then the point shifted from will not be seen worse, and there will be no swing. As improvement is made, the speed can be increased. It is usually impossible, however, to realize the swing if the shifting is more rapid than two or three times a second.

Seeing the previous point worse=the new point shifted to is in the central field and is clearest. The previous point is now in the peripheral field and is less clear, seen worse. The central field is clearest. The peripheral field is less clear. This is normal vision.

THE BLIND MAN

From Better Eyesight Magazine

Little Girls Cure Homeless Man of Blindness



Two little girls that learnt the Bates Method, obtained clear eyesight teach the Bates Method to a blind homeless man they found living outside under a bridge.
They cure the blindness, his eyesight and health are restored.
Treatment: Sunning, sunlight, palming, shifting and switching on letters on identical close and distant eyecharts, swinging, central fixation...
Children are often the best Natural Vision Improvement teachers.

His blindness cured, he now reads the newspaper, walks the city on his own, looks for a job and continues to practice the Bates Method.

Editor's Note. - This letter from a school teacher was just received, and seemed so worthwhile that we decided to make room for it in this issue. It substantiates Ms. Lierman's reports that those who know the method can improve the sight of others. We regret that we did not have time to obtain the permission of the writer to publish this article, and are therefore withholding her name.

Dear Dr. Bates:

I cannot resist telling you what my little Edith Collins, aged twelve years, has done for a blind man that she picked up on the street.

His eyes were very much sunken. She taught him to palm and sun-gaze. She and a little girl friend visited him in his hovel once or twice a week. Much of the time he was so ill that he kept t o his bed, but had this so placed that the sun shone on his eyes.

Little by little his eyes came forward. He palmed faithfully and swung a chart that was given to him. A visiting nurse was telling him it was all "bunk" one day, as Edith entered. She spoke t o the nurse and informed her it was not bunk, and that if she (the nurse) would come back in two or three months she would find out for herself. Well, up to July the reports were that he was gradually looking better, and his eyes seemed fuller. When school opened, Edith came into my room and said, "He sees!" I had forgotten about the man, and for a minute I wondered what she meant. She told me that she had met this man on the street a week or two ago - he was very happy - sees to get around, can read headlines in the papers, and can pick out the smaller words in spots. He has promised her that he will not stop exercising till he obtains perfect sight. He also told Edith that if he had not met her, he would still be a blind man begging for food. Now he intends to find work in some other city. Isn't this a **wonderful thing for a little girl to do**? Of course, if it were not for Edith, the man would still have been blind. Children do not discriminate as to whether a man is a beggar, a worker or worthy. To them there are no differences. They scatter the good into every nook and cranny, and what is more, if it had not been for the revolutionary discovery of this very, very natural way to see and think, I would not have been able to have carried it on to the children, who so unquestionably take to the truth when presented to them. I have been so excited about this that I had to write you at once!

CENTRAL FIXATION

By W. H. Bates, M.D.

When the eye sees best where it is looking it is called Central Fixation. Of course when one sees one point best it must see all other parts worse. It is a great help in accomplishing Central Fixation to ignore or dodge all other objects or letters (objects/letters the eyes are not looking directly at, that are in the peripheral field). To see worse may require in a way greater rest of the mind because in Central Fixation a great many more things are seen worse and only one thing is seen best.

It must be borne in mind that dodging may be done right or it may be done wrong like many other methods of improving the sight. Dodging is done properly when things are ignored. We do not think so much of the objects seen worse (in peripheral field) as we do of the one object which is seen best (in the central field). It is impossible to have perfect sight without Central Fixation. Central Fixation is demonstrated to be a passive condition of the mind and is always accomplished without effort. It is necessary then to dodge the objects not regarded.

CENTRAL FIXATION

Central Fixation: The letter or part of the letter regarded is always seen best. With normal vision, a letter or an object cannot be seen clearly or perfectly unless one sees a part of the letter or object best, or better than all other parts.
Central fixation is passive. We do not see by any effort. Things are seen, one part best. Furthermore, it is a condition of relaxation of the eye or mind obtained without any effort.
The normal eye with normal sight is always at rest. Nothing is done. No effort is made. **Many cases of imperfect sight have been cured when no efforts were made to see.** One cannot relax by working hard, straining, nor obtain rest of the eyes or mind by the help of a strain. When the eyes are normal, they are at rest. When they are imperfect, they are always under a strain.
+**Central fixation should not be confused with concentration, which is defined by the dictionary to mean an effort to keep the eyes or mind continuously on one point only, and to ignore all other points.** Try it. Look directly, for example, at the point of the notch on the upper right corner of the large letter C on the Snellen test card. Keep the eyes open without blinking. In a few seconds, or part of a minute, the mind begins to tire from the monotony. An effort is made to hold the concentration. The effort increases with discomfort or Pain. The vision becomes less, the white of the notch looks gray, the black appears less black, less clear and less distinct. The notch regarded is not seen as well as other parts of the large letter not regarded, and Central Fixation is lost. Not only does the notch appear less clear, but by continuing the effort the large letter C, as well as all the letters on the card, are seen less and less perfectly. The white of the whole card is also modified and becomes less white. Other objects in the neighborhood of the Snellen card soon begin to blur and are seen imperfectly. The stare or strain has very much the same effect as if the sun were covered with a cloud or as if the light in the room, or the general illumination, were lessened. When central fixation is practiced, all the objects in the room, including the Snellen card, look brighter, clearer, just as though the light had increased.
Experience the cause of unclear vision; staring, not blinking, not shifting, eccentric fixation, trying hard, using effort to see clear. Learn to avoid this. Learn to use the eyes correct; relaxation, no effort, shifting, blinking, central fixation and the vision is clear.
+Concentration is trying to see one thing only. It always fails.
+Central fixation is seeing one thing best, and all other objects not so well.
Central fixation is combined with shifting; the eyes, center of the visual field, shifts, moves continually from point to point; part to part, object to object.
When the vision, memory, or imagination are imperfect, concentration can always be demonstrated.
When the vision, memory, or imagination are perfect, Central Fixation can always be demonstrated.
Central fixation is an illusion. All parts of small letters as well as large ones are printed with the same amount of blackness. We do not see illusions. They are only imagined. When we see best one part of a letter, or other object regarded, we think we see it best, or more accurately, we imagine it best. One can imagine anything desired, and much more easily than to make an effort to see it. This fact should be demonstrated repeatedly, and consciously, until it becomes an unconscious habit.
With the **eyes closed the imagination of Central Fixation may be much better than with the eyes open. By alternating the imagination of Central Fixation with the eyes open and closed, both may improve.**
Many persons have no mental pictures with their eyes closed. For example: A patient consulted me about his eyes. He was asked to look at a white pillow.
"Can you see it?" he was asked. "Yes," he answered.
"Now, close your eyes. Can you remember it?" "No," he replied; "I remember a black pillow."
"With your eyes open, can you see one corner of the pillow best, and the other corners not regarded worse?"
He was able to demonstrate this fact, and that he could in turn see, or imagine, each corner regarded best and the other corners worse. With his eyes closed he was able to remember one corner at a time best, and when he remembers the pillow by Central Fixation, he obtained a mental picture of a white pillow almost as well as he could see it with his eyes open.
He was then asked to remember two corners simultaneously, both perfectly clear. At once he lost his mental picture of the pillow. He demonstrated with other objects as well that he could only remember or imagine mental pictures of them by Central fixation.
Another patient had suffered for many years with almost constant pain and fatigue. With his eyes open his vision was 20/20. He read diamond type as close as six inches, and as far off as twenty inches. He could imagine the white part of large or small letters whiter than the rest of the Snellen test card, but only with his eyes open when regarding the letters. With his eyes closed he could not remember mental pictures of any objects.
He was asked: "Which is whiter, the white center of a large letter of the Snellen card or the white snow on the top of a mountain?"
He answered, "The white snow on the top of a mountain."
"Can you shift from one mountain top to another, remembering each one best and the others not so well, or worse?"
This also he was able to do. But when he tried to imagine two or more snow-capped mountains simultaneously, he at once was conscious of an effort and lost his imagination of his mental pictures of the snow.
The memory of the snow-capped mountains by Central Fixation helped him to imagine Central Fixation with his eyes open as well as closed.

A girl, age eight, had imperfect sight not corrected by glasses. The right eye turned in continuously. The vision of this eye was 3/200 with glasses. The left vision was one-half of the normal. She was taught Central Fixation and became able, in a few days, to imagine one part best of the larger letters. The vision of both eyes improved very much. She demonstrated the value of Central Fixation, and that she could not distinguish clearly even the large letters with each eye unless she imagined one part best. By repeated demonstrations this young patient **acquired speed in the practice of Central Fixation**. She became able to read a newspaper more than five feet from her eyes by artificial light. Fine print, or diamond type, was read rapidly, easily, at one inch from each eye.
She enjoyed the practice of conscious Central Fixation. It was to me very wonderful to observe her imagine very small letters by Central Fixation and read them at ten feet or further.
The squint disappeared permanently.

A girl, aged twelve, was treated for progressive myopia. The vision of each eye was 3/200. With concave 16D.S. the sight of each eye was improved to 20/70.

The patient was very nervous. Her memory was poor, and she was behind in her schoolwork. Treatment with the aid of **Palming** and **Central Fixation** improved her vision slowly. After about six months there came a sudden change for the better. In one day, **her vision improved from 10/200 to 10/10 plus**. The next day she read the bottom line of each of three strange cards at twenty feet. It was remarkable, also, because she read all the letters as rapidly as she could pronounce them. The mother was worried because her **daughter had suddenly acquired a habit of running down stairs three steps at a time**. She had never stumbled or fallen once. The mother also reported that the patient had acquired much pleasure in coasting and was the most daring of all the children. Her scholarship had improved. The teacher said the patient would read a page of history in a few seconds, and recite it with a **perfect memory** after a few days, a month, or longer. Her memory for other subjects was equally as good.

Immediately after she read the strange cards with normal vision, I asked her: "What helped you?"

"Starch," she answered.

Then she explained that she had become able to imagine a small piece of white starch perfectly white by Central Fixation. **When her imagination was perfect her myopia disappeared,** her eyes were normal, which made it possible to obtain normal vision. The retinoscope used at the same time demonstrated that her myopia disappeared when she had a perfect imagination of Central Fixation.

Patients whose sight is very imperfect usually require a much longer time to acquire Central Fixation than do some others. One should not be discouraged when, after some weeks or many months, their vision remains imperfect. Too many are disappointed because they fail to obtain Central Fixation after long periods of time, practicing without the help of a competent teacher. One very determined patient devoted many hours daily for over a year without any apparel benefit whatever. She told me that she knew she was curable and was resolved to keep at it the rest of her life if necessary. I wrote her a few suggestions. She followed my advice and was cured in a week.

SACCADIC EYE MOVEMENT

Practicing shifting activates Saccadic Eye Movements - very fast, tiny, automatic shifts, movements, of the eyes. There are many different eye movements; microscopic, high frequency movements, vibrations, optical drift and other tiny, subconscious, automatic movements, and the larger, medium and small movements that occur when the eyes shift across the visual field from object to object, and from part to part, small point to small point upon a object and when the eyes converge, accommodate for clear close vision and un-converge, un-accommodate for clear distant vision. Very tiny, microscopic, high frequency... movements cannot be seen by the human eyes.

A special instrument is used to detect them.

All these movements are necessary to produce clear vision. They keep the eyes shifting, the eye muscles relaxed, functioning correct and vision clear. All eye movements are automatic, a normal function of the visual system.

Saccadic eye movements keep the vision perfectly clear; clearer than 20/20.

Saccadic shifts/movements pull light into the eyes which greatly improves the eyes use of light, color perception and clarity of vision. Saccadic movements are most easily seen when looking at the eyes of a person that has clear vision, does not wear eyeglasses. The saccadic movement is very fast, rapid, movement is small and tiny when looking at, inspecting parts of a object. Shifts are easy, effortless, relaxed, the eyes in continual motion moving from point to point on objects, small parts of objects. The eyes move freely in a variety of directions and can move over many small parts, details of a object in a fraction of a second. Saccadic eye movements produce a sparkling reflection, flickering of light, like a little moving star on the eyes surface-The 'Twinkle in the Eye'.

The normal eye activates hundreds, thousands of saccadic and other eye movements every minute, second. The eye shifts to a new point every fraction of a second. This fast, tiny automatic shift of the eyes produces very clear vision.

A object consists of many small parts. Each small part consists of more small parts, tiny details which contain even more small parts all the way to microscopic level and even smaller parts.

Example; look at a picture in a newspaper. The picture is made up of small parts, tiny dots of ink. Each dot contains smaller parts. The paper is made of small parts of wood fibers. The wood fibers contain even smaller and smaller parts, to the microscopic level. The eyes can shift on, see all these tiny parts.

Use central-fixation; shift from small point to small point, (tiny part to tiny part).

See one tiny part (point) clearest at a time in the center of the visual field. As the eyes shift from point to point, the central field moves with the eyes from point to point, part to part. Each new point the eyes, center of the visual field shift to, move upon is the clearest point (small part) while the eyes, visual attention, central field is on that point.

Practice shifting on the fibers of thread in a piece of cloth.

If shifting, saccadic eye movements occur slower, less often, the vision becomes unclear.
If the movement is very slow, infrequent or stops, the vision is most unclear and other eye problems develop. Blindness has occurred from extreme mental, emotional shock, stress, mental strain, causing the eyes to freeze immobile, frozen in fright, an extreme stare. EFT, Palming, the Color Chart and other methods for releasing negative thoughts, emotions, stress relaxes the eye muscles, returns the eyes to movement, restores the vision. Staring, squinting blocks eye movement, causes stiff, tense, incomplete eye movement and eye muscle tension.
Eye muscle tension produces rigid, infrequent eye movement.
When the vision is unclear, especially if eyeglasses are worn, the eyes shift slower, infrequently, rigid, with effort and the saccadic and other tiny, fast, microscopic... eye movements are also reduced, slow resulting in unclear vision. Eyeglasses cause and increase mental strain, eye muscle tension, impairs, blocks eye movement; shifting and impairs convergence, un-convergence, accommodation, un-accommodation and causes a stiff neck, incorrect posture and other abnormal conditions that impair, slows, blocks all types of eye movements resulting in increased vision impairment, blur.

Avoid eyeglasses.
Eye movement is necessary for clear vision and healthy eyes. Practice shifting. Shifting and relaxation restores saccadic and all eye movements to normal function with clear vision. Shifting is practiced slow, easy. Not too slow, at a comfortable speed. With practice of slow, continual shifting, the fast shifting (saccadic, microscopic... shifts) occur <u>on their own</u>, an automatic function of the eyes producing very clear vision.
Practice shifting, then, don't practice; forget about the eyes, let them move 'on their own', completely natural for perfect clear vision.

The long swing, rock, figure eight activates relaxation and all eye movements. See chapter 16.
Relax the neck, shoulders. A relaxed neck, moving freely relaxes the eyes muscles and improves eye movement.

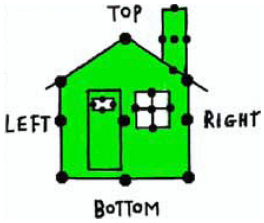
Children are the best Natural Vision Improvement Teachers. Children's eyes shift, move perfectly. Watch a child that has clear vision, watch the child's eyes, the eyes movements. Notice how easy, continually they move, 'shift' and see the sparkle caused by the eyes movements, tiny saccadic eye shifts. This is a way to learn Free Natural Vision Improvement.
Do not let the child know you are watching their eyes because it can interfere with the eyes completely natural movement-the child might begin to think about the eyes, control the eyes movement.
When anyone thinks too much about the eyes function, tries hard to control the eyes movement, it blocks completely natural eye movement and lowers the clarity of vision.
This is why Natural Vision Improvement; shifting, central-fixation, blinking.., are practiced, then; don't practice – let the eyes alone, think of something else, positive thoughts and the eyes will work <u>completely natural</u>, '<u>on their own</u>' automatically producing, maintaining maximum visual clarity.
Vision is clearest when there is no thought about the clarity of vision, no effort to see.

Read about Shifting and Central-Fixation in this book

SHIFT, TRACE, CENTRAL-FIXATION WITH THE NOSEFEATHER

Shift part to part on the house. Shift on small parts; the window, window pane, door, small window on top of the door, chimney... Practice shifting from dot to dot on the picture. Blink, a few gentle relaxed deep breaths.

The dots on the green house are only to learn, practice *shifting with central-fixation* (fovea vision). Do not imagine dots on objects when practicing shifting on real objects or pictures without dots printed on them. Shift on your own, without the dots from one small part to another small part. Shift on other pictures and objects in your environment. If shifting on a black object or letter; you can imagine it is composed of hundreds of tiny black dots and shift from dot to dot.



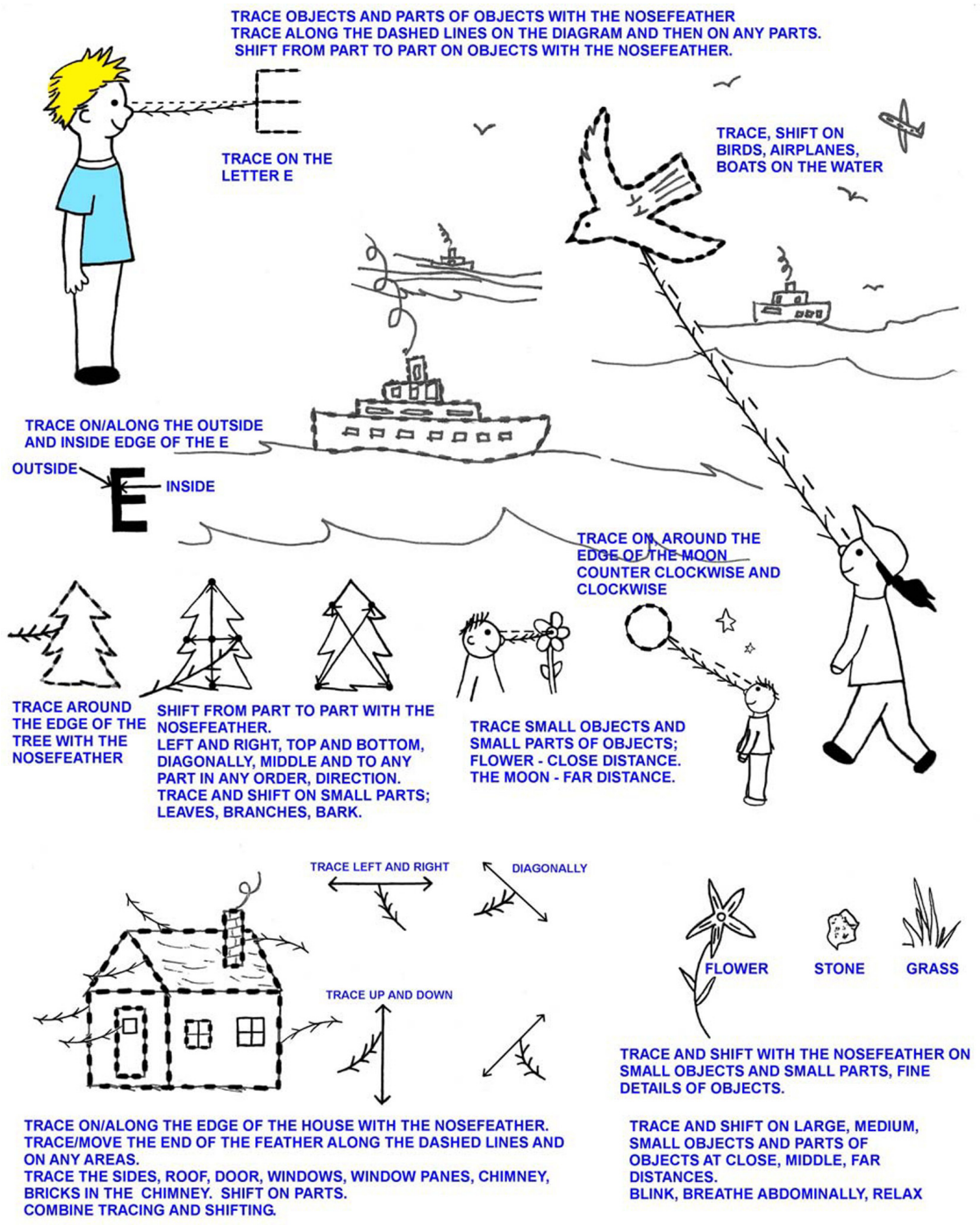
THE MAN IS TRACING AROUND THE EDGE OF THE TREE WITH THE IMAGINARY NOSEFEATHER.
THE END OF THE FEATHER EXTENDS OUT FROM THE END/CENTER OF THE NOSE AND BENDS UP TO EYE LEVEL TO TOUCH THE PART OF THE OBJECT THE EYES ARE LOOKING AT IN THE CENTER OF THE VISUAL FIELD.
THE FEATHER IS VERY THIN AND THE END FORMS A VERY SMALL POINT WHICH IS THE SIZE OF THE EXACT CENTER OF THE VISUAL FIELD PRODUCED BY THE FOVEA CENTRALIS IN THE MACULA, CENTER OF THE EYES RETINA.
MOVE THE POINTED END OF THE NOSEFEATHER AROUND THE EDGE OF OBJECTS AND PARTS OF OBJECTS.
THE EYES, END OF THE NOSEFEATHER, HEAD/FACE AND BODY MOVE TOGETHER, IN SYNCHRONIZATION; SAME TIME, SAME DIRECTION.
THE NECK IS RELAXED AND MOBILE.
BLINK, BREATHE ABDOMINALLY, RELAX. **Trace relaxed, easy, loose. Don't force perfection. Avoid tension, immobility.**
THE NOSEFEATHER IS ALSO USED TO SHIFT FROM POINT TO POINT (SMALL PART TO SMALL PART) ON A OBJECT.
THE NOSEFEATHER IS USED TO SWITCH FROM CLOSE OBJECTS TO DISTANT OBJECTS AND DISTANT TO CLOSE, MIDDLE...
THE FEATHER BECOMES LONGER WHEN LOOKING TO THE DISTANCE AND SHORTER WHEN LOOKING AT CLOSE OBJECTS.
THE NOSEFEATHER ACTIVATES EASY USE OF CORRECT VISION HABITS; SHIFTING (EYE MOVEMENT), CENTRAL FIXATION, MOVEMENT OF THE HEAD/FACE, BODY WITH THE EYES, RELAXATION AND MOVEMENT OF THE NECK.
THE FEATHER CAN BE IMAGINED AS BEING INVISIBLE.
THIS ALLOWS THE BRAIN TO IMAGINE, REMEMBER THE OBJECT THE EYES ARE LOOKING AT CLEAR WITHOUT BEING DISTRACTED BY THE IMAGE OF THE FEATHER.

The Big Fluffy Nosefeather sweeps upon objects. The person just relaxes and sweeps the feather over trees, houses, scenery... This brings movement to the eyes, head, neck, body. Great relaxation of the mind, eyes, neck and body. Option; to use a tiny pointed end of one 'central piece' of the feather to touch, shift, trace on objects with Central-Fixation or let the eyes do central-fixation on their own.

Try imagining a nose pencil or light ray beam. Choose a lightweight, soothing, easy moving object.

Middle size Nosefeather with Central-Fixation point on the end.

Trace, Shift, Central-Fixation with the Nosefeather



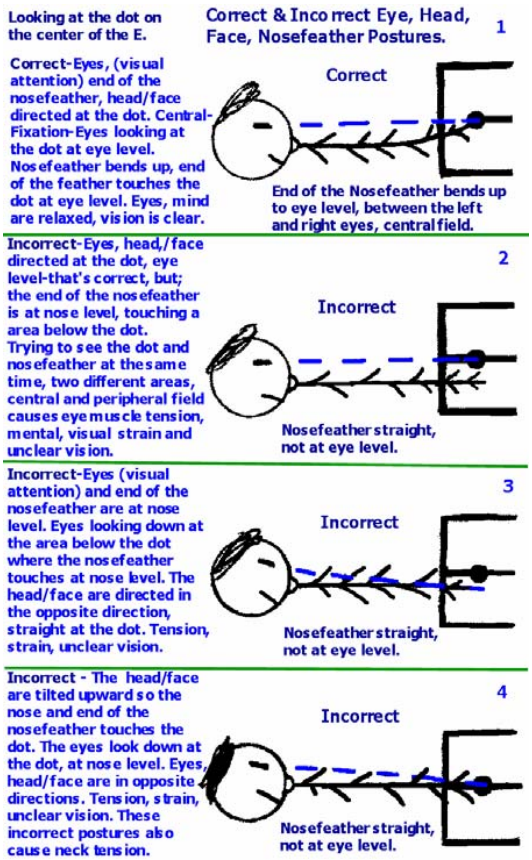
Practicing shifting, central-fixation and all Correct Vision Habits is the act of *imitating normal eye, vision function.* With a little practice the eyes do this 'on their own', automatically and vision is clear. Practice, then don't practice; let the eyes work *Completely Natural, On Their Own* for perfect Vision.

NOSEFEATHER DIRECTIONS

Natural Vision Improvement Teachers get their students to shift the eyes and relax by imagining there is a thin, lightweight, flexible, soft feather attached to the end of the nose. The Nosefeather. (See pictures).

The main feather used is thin. The (feathered) end of the Nosefeather forms into a small point.
The end of the feather extends outward from the center of the nose and bends up and touches the part of the object the eyes are looking at, in the center of the visual field, between the left and right eyes, at eye level. The eyes, visual attention and end of the Nosefeather are always on the same point.

(Do not place the pointed end of the feather on the object at nose level and do not look down at the object at nose level.) Looking down to nose level is imperfect central-fixation, eye/head posture.
Use correct central-fixation; keep the eyes, visual attention and end of the feather on the object at eye level. See pictures.



In the picture of the house; the man is moving the eyes (visual attention, center of the visual field) and end of the Nosefeather on/along the edge of the doors window. He traces with the eyes and Nosefeather around the edge of the window.

The feather becomes long, the end, point extending out to touch far objects and becomes shorter when touching close objects.

+Trace the edges of objects and parts of objects with the pointed end of the feather, and shift with the point from small part to small part, point to point on objects. (Shifting and Central-fixation.)
Use it like a soft brush-moving easy, relaxing as the feather sweeps, brushes upon objects, parts of objects, from object to object.

+Move the head/face, nose/end of the feather and body with the eyes as the eyes shift and trace on a object and shift from object to object in the visual field. The eyes, head, face, Nosefeather and body move together, in synchronization, at the same time, in the same direction.
Moving the end of the feather from part to part on objects and from object to object keeps the eyes moving, 'shifting' and vision clear.
The soft, easy movement of the feather is soothing, relaxing to the eyes, mind and body.
Feel relaxation resonate in to the eyes, head, brain/mind, neck, body. Shifting, central-fixation occur automatically, without trying when using the feather.

The movement of the feather keeps the eyes, head/face and body moving together in synchronization, at the same time, in the same direction. (Movement, a Correct Vision Habit).
This movement keeps the neck and eyes relaxed and mobile.
Neck muscle tension is a main cause of headaches and unclear vision.
When the neck relaxes and moves, the eye muscles and eyes relax enabling the eyes to move, shift easy, perfect resulting in clear vision. Relaxation resonates, travels into the head, eyes.
Relaxation of the neck muscles improves blood, oxygen, lymph and energy flow to the brain, ears, eyes and improves balance, coordination. These conditions also improve vision.

The end of the feather touches objects, parts of objects in the center of the visual field.
This activates a Correct Vision Habit, natural eye function; Central-Fixation = using and seeing very clear with the center of the visual field. The tiny pointed end of the feather touches the exact center of

the visual field produced by the center of the fovea centralis, in the macula, center of the eye retina. The most perfect, clearest area of the visual field-fine detailed clearer than 20/20 vision and bright color.

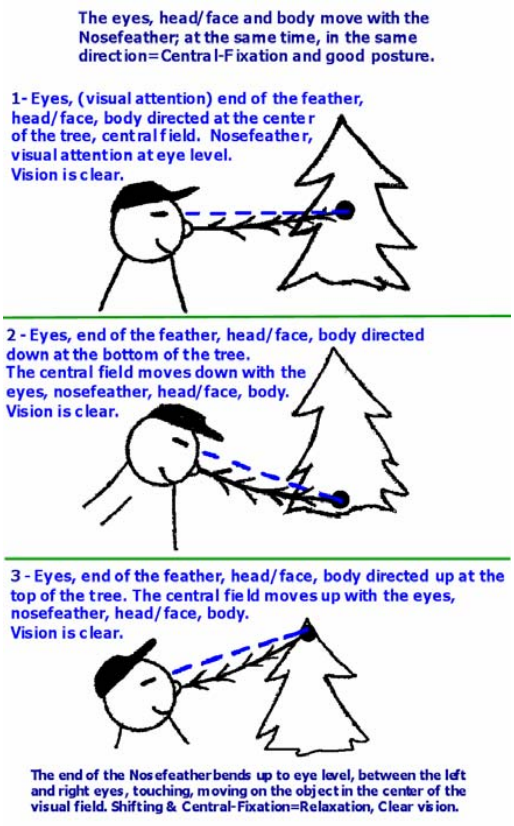
Trace the house with the Nosefeather; move the eyes/visual attention and the fine pointed end of the feather around, directly on/along the edge of the house, directly on/along the edges, counter-clockwise and clockwise. (see dashed lines.)
Then; trace up, down, left, right, diagonally... directly on/along the edges of the house.
Then; trace smaller parts; trace around the door, trace the window and window panes, chimney, bricks in the chimney... Trace directly on the edge of the parts.

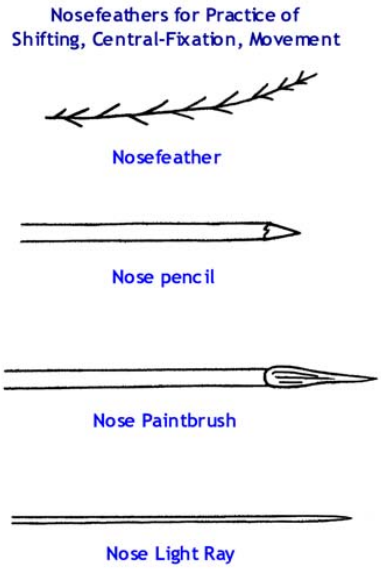
Shift from dot to dot on the green house and other pictures with the end of the feather; the end of the feather touches the dot (part) the eyes are looking at in the center of the visual field.
The end of the feather moves with the eyes, central field from dot to dot.

Move the head/face and body with the eyes and Nosefeather as the eyes, feather traces objects, parts of objects and shifts from small point to small point on objects and moves from object to object.
The eyes, head/face, neck, shoulders and body are relaxed and move freely.
Blink, breathe and relax. Breathe abdominally; take a nice deep, slow, comfortable breath and relax, think a positive thought. Yawn, hum, sing... When the mind is relaxed, drifting from one pleasant thought to another, the eye muscles and eyes relax, shift freely and vision becomes clear.

<u>Use Central-Fixation when Tracing on Objects</u>;
Avoid tracing with the eyes/visual attention and Nosefeather near but away from the edge of the object or part of the object.
Tracing in the air, or on a different object away from the edge of the object you want to see is incorrect eye function, prevents central-fixation and causes diffusion, strain and unclear vision.
Use <u>central-fixation</u>=Look at, trace <u>directly on/along</u> the edge of the object and on/along the edge of parts of the object. Always look at, trace directly on the object; look at, trace <u>directly on</u> the edge of the object or parts of the object for perfect, exact central fixation with eye movement and fine detailed clear vision.
Do this relaxed, no effort. See the dashed lines on the pictures.

A nose-pencil, paintbrush, light ray or other object can be used. It is imagined as light-weight, relaxing, moving easy. The end has a point to touch objects, parts of objects with central fixation, in the center of the visual field.





Alternate with the Thin Feather and a Big Fluffy Feather

<u>The thin feather</u> activates eye, head/face, neck, body movement, relaxation and helps the eyes use central fixation; move, trace directly on/along the edges of objects, parts of objects and shift point to point on objects, parts, tiny details of objects. The thin feather is shown in the picture of the boy, girl tracing objects. The big fluffy feather is shown here.

<u>The big fluffy feather</u> can be used to sweep over objects as long as the eyes continue to use central fixation. The big fluffy feather lets the eyes do central fixation on their own. The fluffy feather is mainly for eye, head/face, neck, body movement and relaxation. Students state the big fluffy feather induces a looser, completely released from tension, deeper relaxation of the eyes, head, neck, body. The thin feather also does this if thought of as light, soft, flexible, without resistance. Imagine all feathers, pencils... as light, soft, moving easy, soothing and relaxed. All nose-feathers, pencils... relax and move the neck. A main Natural Vision Improvement Treatment.

Some teachers say the feather is to be imagined invisible to prevent the brain, imagination from diffusing, being on two different things; the feather and object the eyes are looking at. Other teachers say it's ok to imagine seeing the feather (& the feather any color; white, blue...) as it sweeps upon objects; it is normal for the brain to use the imagination this way and it improves the memory, imagination, relaxation and clarity of vision. I find that every feather is relaxing, improves my vision. Practice with the feather that is most relaxing for you, brings clear vision.

Sweep the feather on objects, from object to object - the eyes, head, neck, body moving, relaxed. The feathers, pencils... can be used for shifting, tracing on any objects, eyecharts at any distance close or far when practicing Natural Vision Improvement.

Tracing, Shifting Example - 'Yellow Kitty'

Trace and Shift on Yellow Kitty and the Angle;

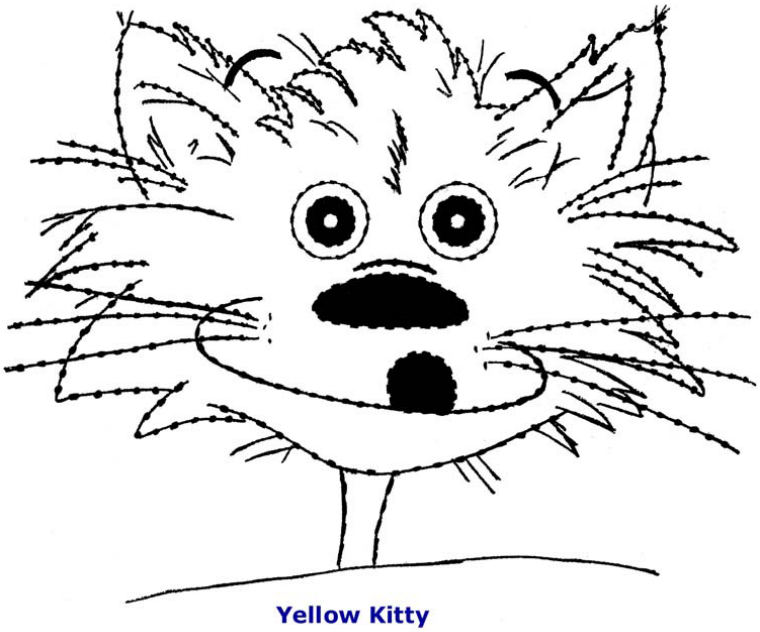
Move the central field, end of the Nosefeather along the edge of the cat; See the dots; move on/along the dots tracing on the cat and parts of the cat.
Shift dot to dot in any direction.
Trace and shift on any part without the dots.
Do the same on the Angel.

When a object appears unclear; shift on it part to part. Blink and relax. It will be seen clear.
This simple action is the main treatment for keeping the vision clear. Most Eye doctors have hidden this 'Secret For Clear Vision' from their patients for over 100 years!
They prefer to sell addictive eyeglasses, harmful eye surgery and drugs. Eyeglasses impair, block the eyes movement, all normal, natural eye functions; shifting, central fixation, convergence, divergence, accommodation, un-accommodation, posture... and impair the eye's health.

Color Yellow Kitty and the Angel; coloring improves central-fixation; coloring within the lines, details, eye movement as the eyes move with the crayon. Left and right brain hemisphere activation, integration occurs by working with colors. Coloring is a relaxing hobby.

Shift, Trace on Yellow Kitty

Shift from dot to dot in any direction: top and bottom, side to side. diagonally... on his face, eyes, nose, mouth, head, any part. Then shift without the dots part to part, any part, any direction.
Trace the kitty: Follow the dots: Trace on/along the dots: on the black ink/dots around his head, fur, whiskers, ears, eyes, nose, month...
Move the head/face with the eyes as the eyes, 'center of the visual field' shift and trace on the cat. Use the Nosefeather. Blink, Breathe, Relax.



Yellow Kitty

Kids - Color the cat. Coloring activates eye movement, shifting as the eyes move with the crayon and central fixation as the eyes move with the crayon on fine details, staying inside the lines.
Colors activate and integrate the left and right brain hemispheres.
Coloring is fun, relaxing, brings a positive state of mind.
All these bring clear vision.

Practice Shifting, Tracing, Central Fixation on Yellow Kitty.

Tracing with the eyes/nosefeather near but away from the edge of the object or part of a object is incorrect, causes diffusion, strain, prevents central fixation. Use central fixation = look at, trace directly on, along the edge of the object or parts of the object. (See dots in picture.)

Trace Yellow Kitty.
Trace with the eyes (vision) and end of the nosefeather.
Trace exactly on the edge of the cat and parts of the cat for perfect central fixation and shifting/eye movement. Trace the head, body, tail, eyes, nose... Follow the dots in any direction. Blink, relax. Shift part to part, point to point.

The central field of vision traces (moves on/along) the edges of the cat.

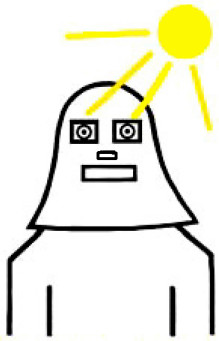
Relax. Let the mind, 'mental attention' move from part to part, dot to dot (true eyes function is moving point to point). Then the eyes, 'center of the visual field, visual attention' will move automatically with the mind. This is a way to 'forget about the eyes', don't try to shift/move the eyes. Let the mind/brain, eyes, visual system work completely natural, on their own. Vision becomes clear without trying. No effort, no strain=no blur.

Comic Books - Use Your Imagination! A Perfect Imagination, Memory Produce Clear Vision. Reading comic books gets the eyes moving *shifting* as the mind-eyes-vision reads the captions, looks at the pictures. Eye shifts also occur with the brain's thoughts, internal images of the book's pictures, characters, scenery, actions, images (often animated) that the brain, thoughts-imagination-memory create while reading the story. The stories, entertainment, pictures, movement, colors activate and improve the imagination, memory, activate-integrate the left-right brain hemispheres, engage, energize and relax the mind. The body, eye muscles and eyes relax. This improves the vision. 100% no effort to see. Just FUN!

CENTRAL-FIXATION

BIRD IS SEEN CLEAR BY PLACING IT IN THE CENTER OF THE VISUAL FIELD

SUNNING



White cloth over the head, face with eye, nose, mouth holes. For sunning without getting a sunburn on the face.

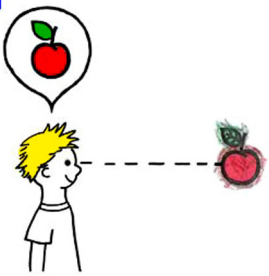
When looking at the bird;
Place it in the center of the visual field.
Shift part to part on the bird, moving the exact center of the visual field part to part.
Do this for any object the eyes look at; shift part to part on the object. Blink, relax.
Move the head/face, body with the eyes, in the same direction.
The center of the visual field moves with the eyes from object to object, part to part.
Use perfect, exact central fixation; shift small point to small point on objects and small parts of objects.

MEMORY AND IMAGINATION – CLEAR MENTAL PICTURES

REMEMBERING, IMAGINING OBJECTS CLEAR IMPROVES FUNCTION OF THE BRAIN WITH THE EYES AND CLARITY OF VISION.

EYES OPEN
APPLE SEEN UNCLEAR.
APPLE IN MIND,
IMAGINATION IS CLEAR.

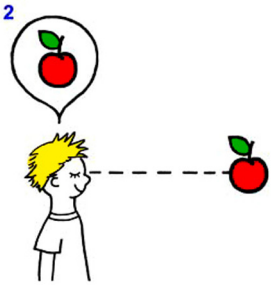
1



REMEMBER, IMAGINE THE APPLE CLEAR.
SHIFT FROM PART TO PART ON THE UNCLEAR APPLE AND REMEMBER, IMAGINE THE APPLE CLEAR.

EYES CLOSED
APPLE IN MIND,
IMAGINATION IS CLEAR.

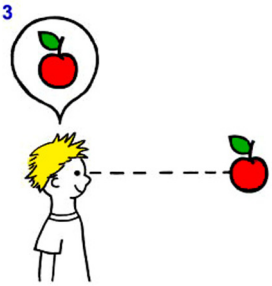
2



SHIFT FROM PART TO PART ON THE APPLE IN THE MIND, IMAGINATION AND REMEMBER, IMAGINE THE APPLE CLEAR.

EYES OPEN
APPLE IS SEEN CLEAR
APPLE IN MIND,
IMAGINATION IS CLEAR.

3



SHIFT FROM PART TO PART ON THE APPLE AND REMEMBER, IMAGINE AND SEE THE APPLE CLEAR.
REPEAT STEPS # 1,2,3.

USE THE IMAGINARY NOSEFEATHER WITH STEPS # 1,2,3. (SEE NOSEFEATHER, CHAPTER --)
REMEMBER, IMAGINE, SEE THE APPLE CLEAR WITH THE EYES OPEN, CLOSED, OPEN WHILE SHIFTING FROM PART TO PART ON THE APPLE WITH THE NOSEFEATHER. TRACE AROUND THE EDGES OF THE APPLE, STEM, LEAF WITH THE END OF THE FEATHER. TRACE SMALL PARTS OF THE APPLE.
PRACTICE STEPS # 1,2,3 WITH BOTH EYES TOGETHER, THEN ONE EYE AT A TIME, THEN BOTH TOGETHER AGAIN.
PRACTICE ON ANY SIZE OBJECT; LARGE, MEDIUM, SMALL, TINY AT CLOSE, MIDDLE, FAR DISTANCES.

Remembering, imagining any pleasant object, scene, happy memory, fantasy relaxes the mind, body, eye muscles, eyes resulting in clear vision.
Remembering, imagining the objects, scene clear while relaxed, easy, without effort improves the clarity of vision.
If the boy remembers, imagines a different object, any happy memory, image, scene (playing baseball, a favorite adventure...) with the eyes open looking at the apple, shifting on it and when the eyes are closed shifting on the imaginary image: when the eyes are opened - the apple will be seen clear. He can remember, imagine the apple or any pleasant object clear, shift on it in his mind and the apple will be seen clear.
Palming with the eyes closed combined with the memory imagination activity brings clear vision.

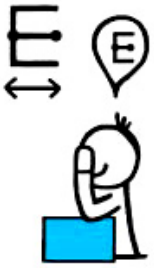
Memory

By W. H. Bates, M.D.

When the sight is normal, the memory is perfect. The color and background of the letters or other objects seen, are remembered perfectly, instantaneously, and continuously.

Remember, imagine black. Remember, imagine letters dark black and clear.

Shift left and right on a E. Shift dot to dot.



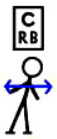
Shift on a letter E and remember, imagine it dark black and clear. See the swing; the letter moves when the eyes shift on it: the E appears to move a 'short swing' in the opposite direction the eyes shift to. Practice with the eyes open, then closed while palming, then open again. Repeat.

Palm and remember, shift on a favorite object: flower, colorful stone, jewelry, tree, land, old house... Improving the memory, imagination of clear mental pictures relaxes the mind, body, eyes and improves the vision.

Palm and imagine drifting down a river. See objects in color, clear, motion. Movement of the boat, water, wind, birds flying, sun shining, sparkling on the river, animals walking on the shore, colorful dragonflies... Imagine all the senses; touch, warmth of sun, feel the breeze, hear the water, birds, wind, taste your favorite drink...

Palm and remember, imagine a letter clear and shift on it.
Shift on any pleasant object in the mind and remember, imagine it clear.

Sway side to side in front of the eyechart, shift on a letter, remember it perfectly eyes open, then closed, still swaying.
Open the eyes again and flash the letter - shift on it for a fraction of a second, see it clear, then close the eyes. Repeat.
Swaying, flashing, shifting and closing the eyes prevents staring, strain, blur.

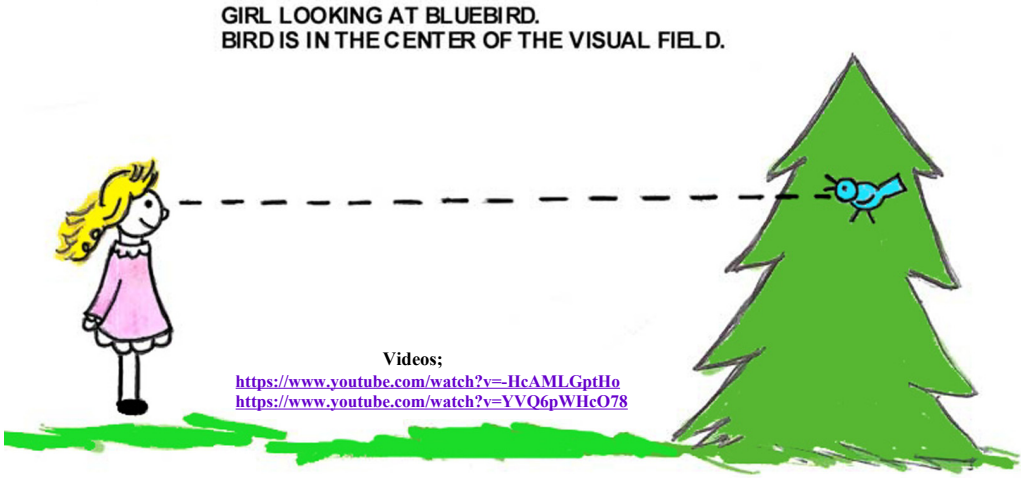


Sway
Move the body left and right and shift on a letter on the eyechart. Blink.

Natural Eyesight Improvement, clear eyesight improves the memory, imagination, relaxation, left and right brain hemisphere function, integration, all functions of the brain, personality. Children's school grades improve.

Look at the C on the eyechart.
Remember, imagine and shift on the C in the mind with the eyes open, closed, open. Remember, imagine the C dark black, clear with a bright, perfect, pure white center. Open the eyes. The C on the eyechart will appear and be seen clear. Shift on the C. Then practice on smaller letters and at different distances.

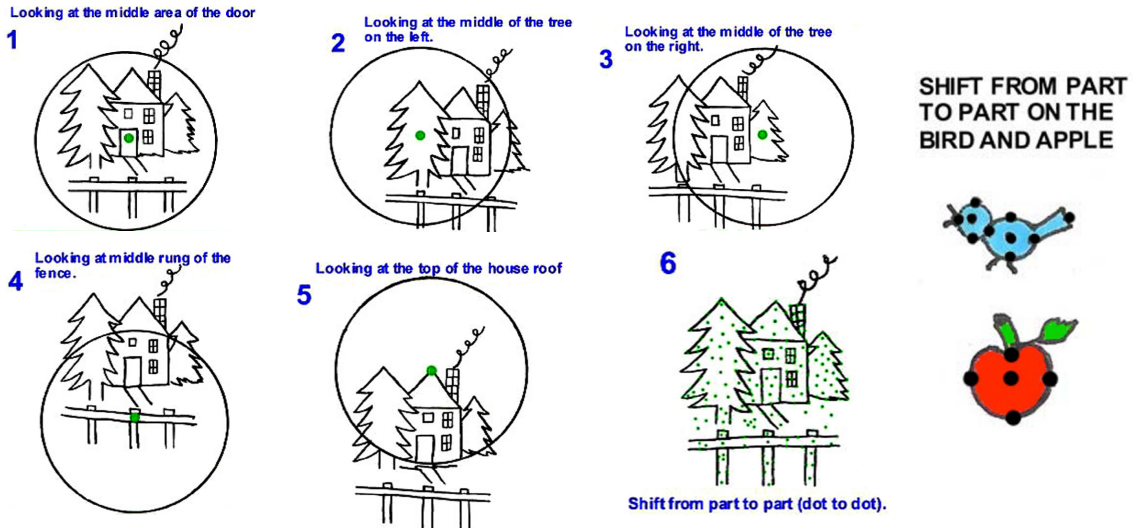
CENTRAL-FIXATION – Seeing Clearest with the Center of the Visual Field

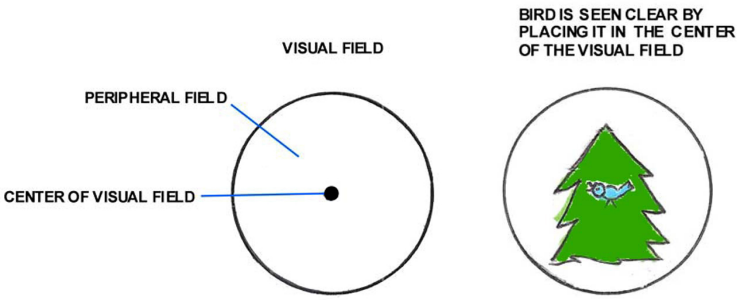


Central-fixation is a Correct, Natural Vision Habit, (the normal, relaxed function of the eyes) that produces very clear fine detailed vision.
Central-fixation = to see clear by using the center of the visual field.
To place the object the eyes are looking at in the center of the visual field.
The center of the visual field is between the left and right eyes, at eye level.
The center is the clearest area of the visual field, clearer than 20/20.
The center of the visual field is produced by the fovea centralis, macula in the center of the eyes retina. The fovea and macula produce the clearest vision, clearer than 20/20.
The center of the visual field, (central Field) moves with the eyes, visual attention; from object to object and part to part on objects. See one small part of a object clearest at a time, in the center of the visual field. Move the central field from part to part. Each new part the eyes shift to, look at is in the center of the visual field and is seen clearest. The new part is clearest while the central field is on that part. Then, when the eyes (central field) move to a new part, that part will be seen clearest. The eyes move continually from part to part, seeing one part at a time clearest, in the central field.

In the picture above the girl is looking at the bluebird in the tree.
The bird is in the center of the visual field and is seen clear.
Relaxation, shifting and central-fixation are the 3 main Correct Vision Habits that keep the vision clear.
Practice them in a relaxed, easy, effortless manner.
Avoid staring, eye immobility, becoming stiff, immobile when placing a object in the center of the visual field. Relax, blink and move.

Central-fixation is combined with shifting = shift, move the eyes (visual attention, center of the visual field) from part to part on the object. The eyes, head/face, neck and body are relaxed and move freely. Blink, relax and move. The entire visual field is seen by the eyes, brain. The central field is clearest.





PLACE THE CENTER OF THE VISUAL FIELD ON THE PART OF THE OBJECT THE EYES ARE LOOKING AT. SHIFT, MOVE THE EYES (VISUAL ATTENTION/CENTER OF THE VISUAL FIELD) FROM OBJECT TO OBJECT, PART TO PART.

#1 - Looking at the middle of the house door.
The part (middle of the door) is in the center of the visual field and is seen clearest.
(See green dot/center of the visual field).
Other parts of the door, house, and other objects are in the peripheral field and are less clear.

#2 - Looking at the middle of the tree on the left.
(Notice the entire visual field, central and peripheral has moved left with the eyes, head/face, body).
The middle of the tree is in the center of the visual field and is seen clearest.
(See green dot/center of the visual field).
Other parts of the tree and other objects are in the peripheral field and are less clear.

#3 - looking at the middle of the tree on the right.
The middle of the tree is in the center of the visual field and is seen clearest.
(See green dot/center of the visual field).
Other parts of the tree and other objects are in the peripheral field and are less clear.

#4 - Looking at the middle rung of the fence.
The middle rung is in the center of the visual field and is seen clearest.
(See green dot/center of the visual field).
Other parts of the fence and other objects are in the peripheral field and are less clear.

#5 - looking at the top of the house.
The top is in the center of the visual field and is seen clearest.
(See green dot/center of the visual field).
Other parts of the house and other objects are in the peripheral field and are less clear.

1 to 5 is the normal, correct function of the eyes; central fixation and shifting.

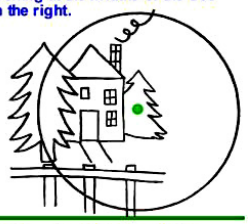
Dr. Bates taught his students how to experience incorrect use of the eyes, eyestrain and blur in order to know how to avoid these conditions and use the eyes correct for clear vision.
Try this experiment; Look at diagram # 6. Stare at one dot.
Don't shift to another dot - do not move the eyes.
In about one second eyestrain and unclear vision occurs.
Now, try to see all the dots equally clear at the same moment without shifting, not moving the eyes. Again eyestrain and unclear vision occurs.
This is staring, a main incorrect vision habit that causes eyestrain, eye muscle tension and unclear vision. Squinting, a form of staring also causes eyestrain and blur.
Next; shift from dot to dot .
Notice that shifting prevents eyestrain, tension, blur.
Shifting relaxes the mind, body, eyes and brings effortless clear vision.
Relax, blink and shift.

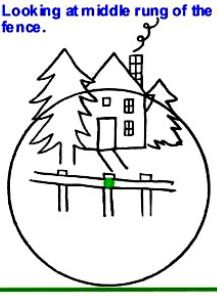
#6 - Central fixation and shifting relaxes the mind, body, eyes and maintains clear vision.
Central fixation; see one small part of a object clearest at a time in the center of the visual field and
shift; shift continually from one small part to another small part;
Shift from dot to dot on the objects in diagram # 6.
Shift continually, relaxed, easy from part to part, (small point to small point - dot to dot) on the objects; trees, house, fence, lawn.
Blink, breathe slow, easy and relax.
See each point (small green dot) clearest in the center of the visual field, one small point (dot) at a time.
Then practice this shifting and central fixation without the dots on any objects at any distance; close, middle, far.
Avoid trying to see clear. Just relax and shift.
Central fixation and shifting causes the center of the visual field to be much clearer than 20/20 with areas around, near the central field to be at 20/20 and clearer and the peripheral field at maximum clarity and function.
Central fixation improves the clarity of the entire visual field.

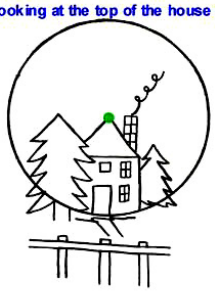
Shift from part to part (dot to dot).

Looking at the middle area of the door
1

Looking at the middle of the tree on the left.
2

Looking at the middle of the tree on the right.
3


Looking at middle rung of the fence.
4


Looking at the top of the house roof
5


Central fixation, shifting and movement

The head/face and body move with the eyes, at the same time, in the same direction the eyes move/shift to as the eyes shift from object to object and part to part on a object.
This keeps each part of the object the eyes shift to/look at between the eyes, at eye level, in the center of the visual field and perfectly clear.
Face the object the eyes are looking at - eyes, head, face, body directed toward the part of the object the eyes are looking at.
To see a object clear; look at, see clearest, one small part of the object at a time in the center of the visual field and shift continually from one small part to another small part.
The part of the object the eyes are looking at is placed in the center of the visual field and is seen clearest.
The center of the visual field moves with the eyes keeping each object, part of the object the eyes look at in the center of the visual field and perfectly clear.
Moving the head/face, body with the eyes, facing the object, part of the object the eyes are looking at improves central fixation, shifting, relaxation and movement of the eyes, head/face, neck, body, convergence, accommodation, divergence, unaccommodation and clarity of vision.

Example; Shift on a tree.
The black dot on the diagrams of the tree on the right shows the center of the visual field, the part of the tree the man is looking at.
The man faces the part of the tree the eyes are looking at for perfect central fixation.

#1 - The man is looking at, shifting on a small part in the middle of the tree. (See dot)
The eyes, head/face and body are directed toward the part in the middle of the tree.
The part (dot) is between the eyes, at eye level, in the center of the visual field and is seen clearest.
Other areas of the tree are in the peripheral field and are less clear.

#2 - The man is looking at, shifting on a small part on the left side of the tree.
The eyes, head/face and body shift/move left and are directed toward the part on the left side of the tree.
This new part is now in the center of the visual field and is seen clearest.
Other areas of the tree are in the peripheral field and are less clear.

#3 - Looking at, shifting on a small part on the right side of the tree.
The eyes, head/face and body shift/move right and are directed toward the part on the right.
The part is in the center of the visual field and is seen clearest.

#4 - Looking at, shifting on a small part on the top of the tree.
The eyes, head/face and body shift/move up and are directed toward the part on the top of the tree.
The part is in the center of the visual field and is seen clearest.

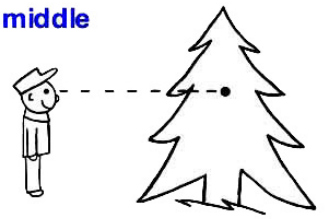
#5 - Looking at a small part on the bottom of the tree.
The eyes, head/face and body shift/move down and are directed toward the part on the bottom of the tree.
The part is in the center of the visual field and is clearest.

Blink and relax.
When looking at a small part (dot) continue to shift on the small part and it will be seen clear.
Avoid becoming stiff, immobile when placing a part in the center of the visual field.
You don't have to try to place it perfectly.,
The eyes will do this automatically.
Let the eyes, head/face and body relax and move.

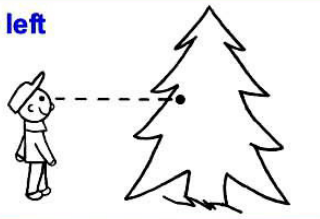
#6 - Shift from part to part (dot to dot) on the tree in diagram # 6.
Shift continually, easy, relaxed, moving the eyes, head/face, center of the visual field from dot to dot.
When the center of the visual field is on a dot it is seen clearest, clearer than the other dots that are in the peripheral field.
The eyes, center of the visual field may be on a dot for only a fraction of a second as the eyes move about the tree but during that fraction of a second, that dot is clearest.
Practice shifting from small part to small part on any objects at close and far distances.

Seeing one small part of a object clearest at a time and shifting from small part to small part is relaxing to the eyes, mind, body and produces clear vision.
Ophthalmologist Bates taught his patients to remember, imagine, see and shift on a small black dot - a period at the end of a sentence.
This relaxes the mind, body, eyes, activates central fixation, shifting and clear vision.
Look at a small dot below the tree on the right.
Practice on the smallest dot possible.
Shift on the black dot and remember, imagine and see the dot dark black and perfectly clear.
Do this with the eyes open, then in the imagination with the eyes closed, then with the eyes open again.
Shifting on the dot when the eyes are open, and shifting on the dot in the imagination when the eyes are closed relaxes the eyes, mind, keeps the memory and imagination strong and keeps the image of the dot in the mind clear and the dot seen with the eyes open clear.
Shift relaxed and easy - left and right, top and bottom, diagonally, middle and in any direction on the dot.
Blink, breathe abdominally, relax.
Shift on the dot with eyes open, closed, open and see oppositional movement; the swing;
The dot appears to move in the opposite direction the eyes shift to on the dot.
Shift left, the dot moves right.
Shift right, the dot moves left, shift up, dot moves down, shift down, dot moves up.
This also relaxes the mind, eyes, and keeps the dot dark black and clear with the eyes open, closed, open.

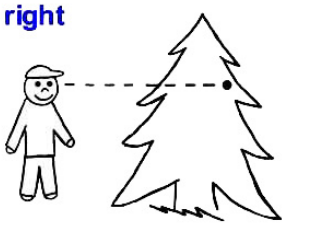
1- middle



2 - left

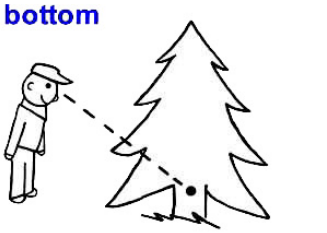


3 - right



4- top

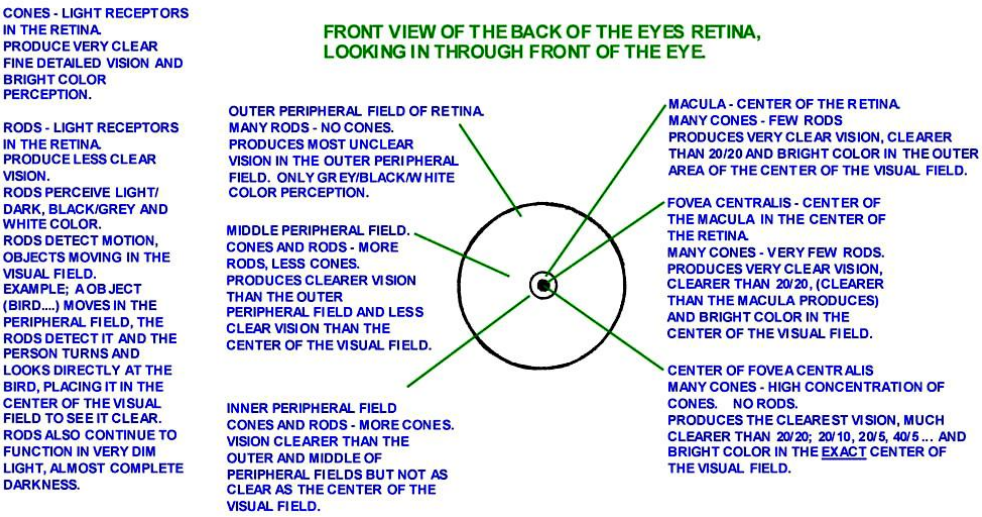
5 - bottom

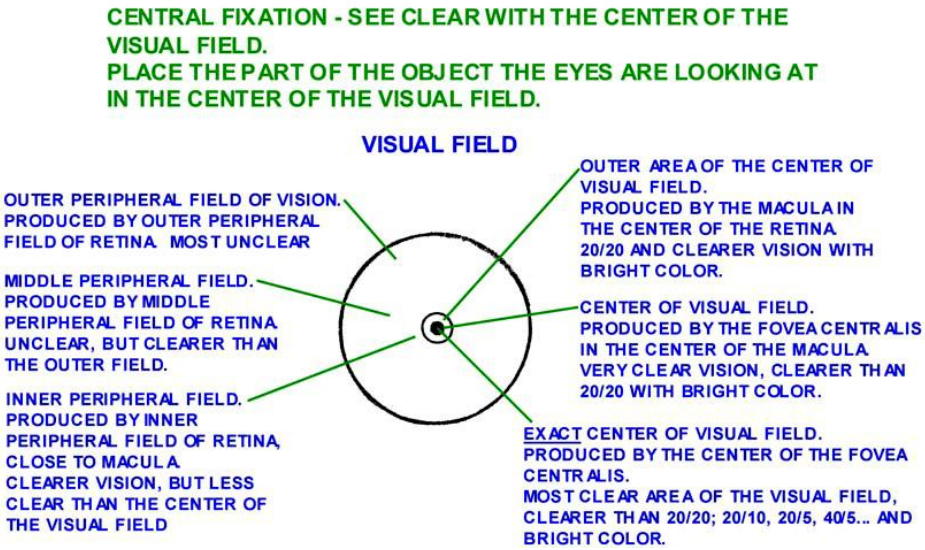


6
Shift on the tree from dot to dot.

It is normal to turn the head, face eyes to the left, right... without moving the entire body to glance at a object but if the position is maintained; the entire body, head/face must face the direction the eyes are facing in order to keep eye, head, neck, body muscle relaxation, easy movement.

These pictures show why central-fixation produces clear eyesight. The eyes central field is produced by the fovea centralis in the center back of the eyes retina in the macula. It contains many cones, light receptors that produce very clear, fine detailed eyesight and bright color, clearest, brightest in the central field.





The central field moves with the eyes, head/face as the eyes shift from object to object and part to part on objects. Dr. Bates describes this and ways to return the eyes, vision to this normal, natural function, perfect clear eyesight.

True shape of the visual field is wider, longer on the left and right sides.

SWITCHING, SHIFTING CLOSE, MIDDLE AND FAR

Switching Close, Middle, Far on objects at different distances is a type of Shifting that improves the clarity of vision at all distances.

Switching; to switch (change) the visual attention from one distance to another distance.

Example;
+Look at a object at a close distance, the cat on the fence. Shift part to part on the cat. Blink, Relax.

+Then switch to a object at a far distance - trees, mountains, sky. Shift part to part on the far objects.

+Then switch back to the close object - cat. Shift part to part on the cat.

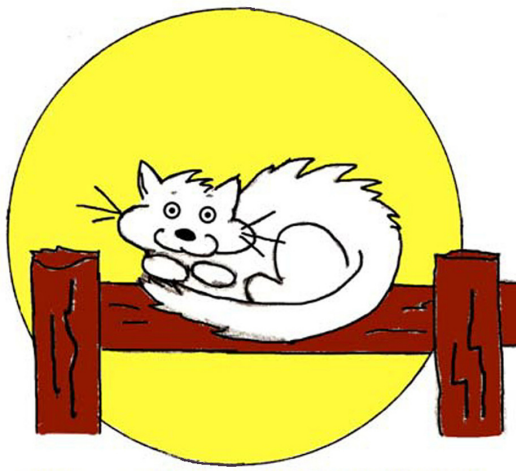
+Switch back and forth; cat, trees, mountains, sky, cat, trees, mountains, sky, cat... Shift on each object the eyes look at, one object at a time.

+Switch to the middle distance;
cat to house, house to cat, cat to house... house to trees, mountains, back to house, trees...

Switch back and forth on any objects, any distances, close, middle, far, in any order.
Let the eyes move, shift freely from object to object and part to part on objects; shift along the fence, grass, flowers, truck, dog, house, owl, trees, mountains, sky, birds. Shift on small parts, tiny details on objects; shift part to part on the windows in the house, window panes, chimney, bricks in the chimney. Shift on the owls face, eyes, ears, wings, claws. Central-fixation: shift point to point on tiny parts. No effort to see. Blink, breathe deep, relax.
Trace on/along the edge of objects, parts of objects with the Nosefeather; mountains, hills, trees, house, fence, any object.

Switch on objects at close, middle, far distances that are in a straight line, row with eachother.

In the picture of the kitty on the fence, house, mountains; To practice switching, shifting on the objects; the person stands with the cat, fence at eye level. Height of the cat, fence is in front of the persons face. This causes some distant objects (house, trees...) to be directly beyond the cat, fence. The objects are aligned with eachother. Placing a few objects in a straight line with eachother greatly improves accommodation, un-accommodation and convergence, divergence when looking close, middle and far, switching back and forth on the cat, house...
Practice with; both eyes together, then one eye at a time. If the vision is less clear in one eye; do an extra 20-30 seconds switching, shifting practice with that eye. Then practice with both eyes together again.

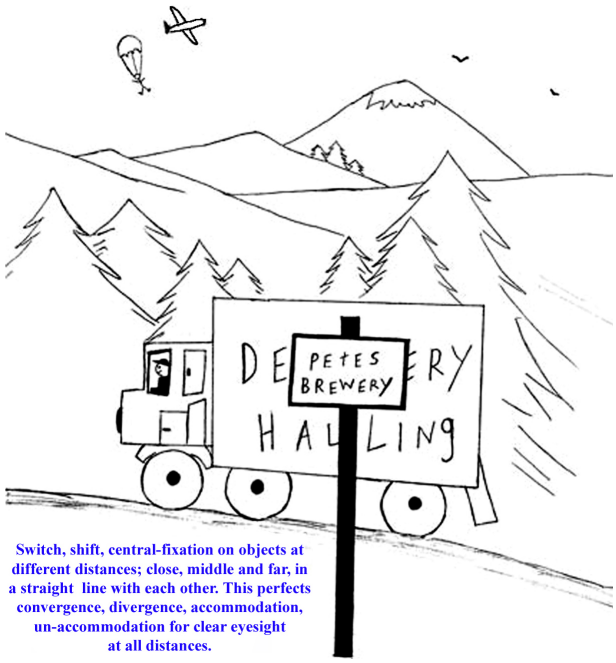


Shift on the kitty, then on the distant moon, then on the kitty, then moon, kitty... Blink, relax.

This improves the clarity of vision.

Example: See the picture of the kitty and moon. The kitty and moon are in a row, aligned. Shift part to part on the kitty, then switch to the distant moon and shift on the moon, then back to the kitty, then moon, kitty… See the pictures below; The man switches, shifts close, middle, far on 5 telephone poles aligned with eachother, in a straight line down the side of the street. He shifts, traces on the poles, one at a time.

Switch, Shift, Trace on objects at different distances in a straight line with eachother to perfect: accommodation, un-accommodation, convergence, divergence, clarity of vision. Practice with: both eyes together, then one eye at a time, then both eyes together again.



Switch, shift, central-fixation on objects at different distances; close, middle and far, in a straight line with each other. This perfects convergence, divergence, accommodation, un-accommodation for clear eyesight at all distances.

He then does the Rock; moves the eyes, head, face, body side to side and notices oppositional movement of the poles; Poles at different distances appear to move against eachother in opposite directions as he rocks side to side. The close pole moves opposite his eyes, head, body moment and the far distant pole appears to move with him in the same direction.

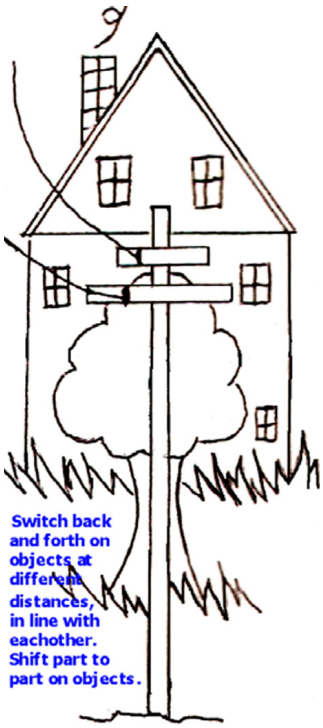
He also switches, shifts on the houses along the side of the street. He gets a good view of the houses aligned by standing where the kitty is by the edge of the house.

The 2 other pictures show more objects in a straight line.

Example: Shifting part to part on the Pete's brewery sign, then on the truck beyond it, then back to the sign, then to the truck, then to the trees, back to the truck, then trees, sign, trees, truck… Switch to and shift on the fields, mountains, airplane, parachute, birds. Switch to any object, any order and shift on it.

(Switching is not done only on objects in a straight line. Switching is also practiced on objects at a variety of locations; left, right, up, down, diagonally… to give the eyes complete freedom of shifting movement. This is the normal, natural function of the eyes. Straight line switching is only practiced a short time to 'tune up' the eyes function, visual clarity.) More examples for switching in a straight line are in the 'Pens in a Row' section in this chapter.

Switching, shifting… at night video;
http://www.youtube.com/watch?v=r5JxOFVi3hc



Switch back and forth on objects at different distances, in line with eachother. Shift part to part on objects.

Practice switching, shifting, central fixation… on real objects in your environment. (Switching cannot be done on these pictures because they are on a flat surface, all are at

one distance so changes in convergence, accommodation, divergence, un-accommodation do not occur when looking at objects that appear at different distances on the paper.) Shifting, central-fixation can be done on the pictures with benefit.

When looking at a object; shift on it, even when looking at the object for only a few seconds. Shift from part to part.

Central-fixation - keep the object the eyes are looking at in the center of the visual field. The center of the visual field is clearest, clearer than 20/20. Placing the object (part of the object) the eyes are looking at in the center of the visual field keeps the object clear.
The center of the visual field moves with the eyes as the eyes move, shift from part to part on a object and from object to object keeping every object, every part of a object the eyes look at perfectly clear.
The head, face and body move with the eyes, at the same time, in the same direction.
The eyes, head/face, neck and body are relaxed and move freely, easy. Blink and relax.

Keep the eyes moving, shifting easy, relaxed from part to part and object to object. Look at a object and shift on it. Then look at a different object, shift on it, then look at another object, shift on it.
Eye movement keeps the mind, eyes relaxed and vision clear.
With practice the eyes shift 'on their own', automatically, without the person thinking about it, the true natural function of the eyes.

Practice switching back and forth on objects at close, middle and far distances with;
Both eyes together, then with one eye at a time, then, both eyes together again.
If vision is less clear in one eye, practice a little more with that eye to get the vision equal and perfectly clear in the left and right eyes at all distances. When the vision is equal in the left and right eyes, the vision quickly improves to perfect clarity. The memory, imagination, left and right brain hemispheres work with the eyes. Their function improves when the vision is equal in the left and right eyes. Brain function with the eyes, visual system, all brain functions and clarity of vision improve.

Keep the objects in the center of the visual field, between the left and right eyes, at eye level when using both eyes together and when using one eye at a time.

The eye that is not in use is covered with a eye patch and the eye is kept open under the patch. (Closing one eye causes eye muscle tension and blur so keep both eyes open when using one eye at a time). Both eyes close when the eye in use is closed. Leave a little space between the eye and patch so some light gets in to keep both eyes, left and right brain hemispheres activated.

Practice switching, shifting, tracing, central fixation on objects, parts of objects with the Nosefeather.

Switching improves convergence and accommodation of the eyes when looking at objects at close distances - (20 feet and closer) for clear close vision and improves un-convergence (divergence) and un-accommodation when looking at objects at far distances (about 20 feet and farther into the distance) for clear distant vision.

The author of this book learnt switching and shifting from reading Aldous Huxley's book 'The Art of Seeing' in high school, 1974 and regained 20/20 clear distant vision in 5 minutes and clearer vision in one day and threw away her glasses. Close and distant vision continues to be clear at age 58 in Mar., 2015. I practice with fine and micro print.

Window pane bars (wood surrounding a window pane) can be used to practice switching close and far.

The bar is the close object. The objects outside the window (tree, birds, house...) are the distant objects.
Switch back and forth, close and far, on a window bar and a distant object in line with the bar.
Then, move the eyes, (visual attention) throughout the scene, looking at, shifting on any objects, at any location. Shift on the close and far objects, use central-fixation, shift on small objects, parts. Blink.
Practice with; both eyes together, then one eye at a time, then both eyes together again. Extra practice with a eye that has less clear vision.

Place a close and far object in the central field-between the eyes. When looking at the far object; the close object in line with it appears double, its 2 images appearing in the peripheral field on the left and right sides of the far object. The images are equally spaced. When looking at the close object; the far object appears double. Example; *Plain Switching* on page 409 and picture bottom left on page 411; Use both eyes. When looking at the far cat in the tree; the close red pen appears double. Look at the close pen; the far cat appears double. The width of the spacing of the double image in the peripheral field changes with the distance of the pen and far cat. The amount of the eyes' convergence, divergence also changes with the distance the close and far objects are at.

A open window is best, bringing full spectrum sunlight onto the face, eyes and a perfect view, unobstructed by glass. Open the window and hang a pencil vertically on a string in the center of the window for the close object. (Cap the pointed end of the pencil for safety.)

Switch, shift back and forth on the pencil and distant objects beyond the pencil.

Hang a few more pencils or other objects in the window so the eyes, head/face, body have more movement, more close objects (pencils...) to look at.

Objects can be hung on a rope at close, middle, far distances outside in the sunlight.

See The Illusion of Oppositional Movement

Rock the body side to side, left and right, while facing the window bar and distant objects and see oppositional movement, 'The Swing';

+ When the eyes, head/face, body move to the left <
the window bar (close object) appears to move in the opposite direction, to the right. >
+ When the eyes, head/face, body move to the right >
the window bar appears to move in the opposite direction, to the left. <
+ Notice that the house (distant object) appears to move with the eyes, head/face, body in the same direction.
+ Notice that the window bar (close object) and the house (distant object) appear to move against eachother, in opposite directions.

Do not lock the eyes/visual attention on any objects when moving left and right; just relax and let the objects move. Don't try to see anything clear.

This activity relaxes the mind, body, eye muscles, eyes and improves the clarity of vision.

When the eyes can move, shift on small and tiny objects and see oppositional movement-the eyes function is perfect and vision is most clear; Practice shifting on and seeing 'The Swing' of a small tiny object=fine print letter or tiny flower.

Shift left to right > on the letter - the letter moves, 'swings' to the left <.
Shift right to left < on the letter- the letter moves, 'swings' to the right >.
Blink and relax. No effort to see the letter or the swing. This brings very clear, fine detailed vision.

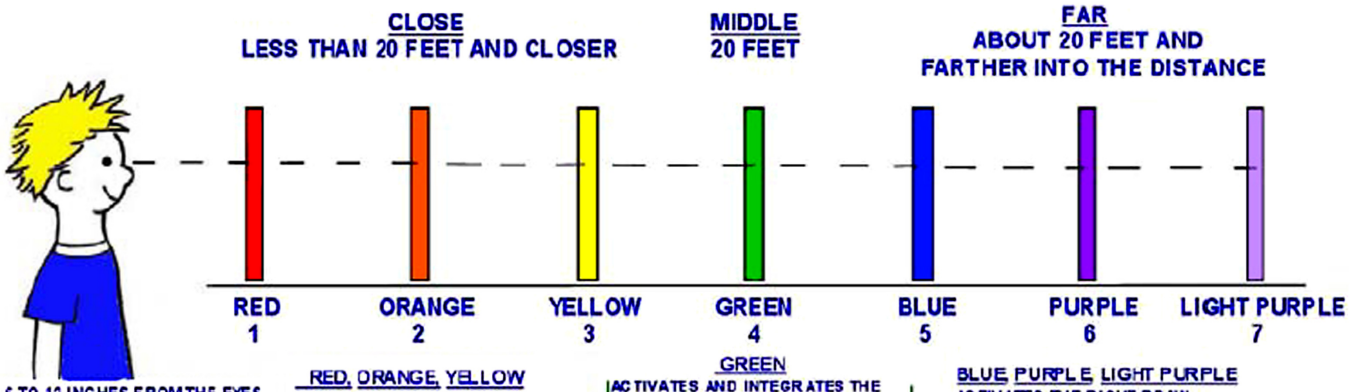
Practice shortening the rock, eye, head/face, body movement; shift on a small object; letter, fine print and see a small swing of oppositional movement. This activates saccadic eye movements, perfect central fixation and very clear vision. Small eye shifts, seeing tiny details clear with relaxation.

Switching, shifting on objects and seeing oppositional movement can be done most anywhere throughout the day and at night. There are always close and far objects in the visual field to practice on. Just a little practice, couple minutes a day or two, three days week will improve the vision. Once vision is clear, practice only if needed to bring the vision clearer than 20/20 in times of normal fluctuations. Keep natural, normal eye, visual system function as a healthy habit.

The business cards showing the San Francisco Bridge in California, USA and the field, trees can be given to people that need vision improvement. Pictures on the cards are pleasant to look at, induce a positive, happy state of mind, relax the mind, body and eyes. The person presenting the card can be a Natural Vision Improvement Teacher and give the person a quick, easy lesson by describing how to switch the visual attention back and forth on objects at close, middle and far distances; bridge at close distance, sea at middle distance, city of San Francisco and skyline, clouds far distance. Describe shifting from object to object in the visual field, shifting part to part on objects, moving the head/face, body with the eyes, central-fixation; placing objects, parts of objects in the center of the visual field, seeing the central field clearest, seeing small fine details clear at close and far distances, relaxation, memory, imagination. Place your website, contact information on the card for in person training.

Close the eyes and imagine looking close and far; shift on a close object, then a far object, then close, far... The eyes converge inward when looking close and diverge out when looking far *even when practicing using the memory-imagination with the eyes closed*. This can also help the blind; get the lens and eyes moving. When the eyes accommodate (look close) the lens and eye change shape to focus light rays correct. As the lens changes shape, the eye lengthens. When looking far the lens returns to its previous shape and the eye returns to its round shape. The movement keeps the lens flexible, hydrated, nutrients flow in, waste moves out. Circulation in the eyes is improved. This can help to reverse cataract, unclear eyesight.

SWITCH ON THE SEVEN COLORED PENS PLACED AT CLOSE, MIDDLE AND FAR DISTANCES



RED PEN - 6 TO 12 INCHES FROM THE EYES OR START AT ANY DISTANCE THAT IS COMFORTABLE.
PLACE THE 7 PENS IN THE CENTER OF THE VISUAL FIELD, BETWEEN THE EYES, AT EYE LEVEL. PENS ARE IN A STRAIGHT LINE.

RED, ORANGE, YELLOW
ACTIVATES THE LEFT BRAIN HEMISPHERE AND CLEAR CLOSE VISION

GREEN
ACTIVATES AND INTEGRATES THE LEFT AND RIGHT BRAIN HEMISPHERES AND CLEAR CLOSE, MIDDLE AND FAR VISION.
GREEN, THE MIDDLE DISTANCE, IS THE BALANCING COLOR AND REPRESENTS THE CENTER/MIDLINE OF THE BRAIN WHERE THE LEFT AND RIGHT HEMISPHERES MEET, COMMUNICATE, SWITCH BACK AND FORTH.

BLUE, PURPLE, LIGHT PURPLE
ACTIVATES THE RIGHT BRAIN HEMISPHERE AND CLEAR DISTANT (FAR) VISION

Note; Do not do Secret Switching #1 and #2 (page 410, 412, 413, 414) with the; Pens in a Row, the Bead String (pg. 245) and the Correct, Relaxed Natural Vision Habits Card (pg. 196). For them; Use only Plain Basic Switching A - Steps # 1-8 on page 409 with the close, middle, far objects between the eyes.

DIRECTIONS

+SWITCHING BACK AND FORTH; CLOSE TO FAR, FAR TO CLOSE AND TO/ FROM THE MIDDLE DISTANCE TO/FROM CLOSE AND FAR ACTIVATES AND INTEGRATES THE LEFT AND RIGHT BRAIN HEMISPHERES AND CLEAR CLOSE, MIDDLE, DISTANT/FAR VISION.
COLOR IMPROVES BRAIN FUNCTION AND CLARITY OF VISION.
+SWITCHING ON THE COLORED PENS; RED, ORANGE, YELLOW (CLOSE DISTANCES) TO BLUE, PURPLE, LIGHT PURPLE (FAR DISTANCES) AND TO GREEN (MIDDLE DISTANCE) INCREASES ACTIVATION AND INTEGRATION OF THE LEFT AND RIGHT BRAIN HEMISPHERES AND CLARITY OF VISION.
EXAMPLE; RED, CLOSE (LEFT BRAIN HEMISPHERE) TO BLUE, FAR (RIGHT BRAIN HEMISPHERE)
BLUE, FAR (RIGHT HEMISPHERE) TO RED, CLOSE (LEFT HEMISPHERE) ACTIVATES AND INTEGRATES THE LEFT AND RIGHT HEMISPHERES AND CLEAR CLOSE AND FAR VISION.
MIDDLE DISTANCE VISION IS AUTOMATICALLY IMPROVED. SWITCHING TO AND FROM THE MIDDLE DISTANCE GREEN TO/FROM THE CLOSE AND FAR DISTANCES WILL INCREASE ACTIVATION AND INTEGRATION OF THE BRAIN HEMISPHERES, CLARITY OF CLOSE, MIDDLE AND FAR VISION.
SWITCH CLOSE, MIDDLE, FAR IN ANY ORDER ON THE 7 PENS;
RED TO BLUE - BLUE TO RED. RED TO LIGHT PURPLE -LIGHT PURPLE TO RED. RED TO GREEN - GREEN TO RED
RED TO BLUE, TO GREEN, TO BLUE, TO YELLOW ORANGE TO GREEN - GREEN TO ORANGE. PURPLE TO BLUE, PURPLE, RED...
SHIFT ON EACH PEN THE EYES LOOK AT. LOOK AT A PEN AND SHIFT ON IT TO PREVENT STARING. AVOID STARING, EYE IMMOBILITY, SQUINTING, TRYING TO SEE CLEAR.
SHIFT ON THE PEN FROM PART TO PART; TOP AND BOTTOM, LEFT AND RIGHT, DIAGONALLY, TO MIDDLE AND TO ANY DIRECTION, PART.
MOVE THE HEAD/FACE WITH THE EYES, SAME TIME, SAME DIRECTION.
THE EYES, HEAD, FACE, NECK AND BODY ARE RELAXED AND MOBILE.
BLINK, BREATHE, RELAX. PRACTICE OUTSIDE IN THE SUNLIGHT. PRACTICE WITH BOTH EYES AND ONE EYE AT A TIME. USE THE MEMORY AND IMAGINATION.
SEE COMPLETE DIRECTIONS ON TOP PICTURE. TRACE AROUND THE EDGES OF THE PENS WITH THE NOSEFEATHER.
SWITCHING, SHIFTING ON THE PENS AND USE OF CENTRAL FIXATION KEEPS THE EYES RELAXED, IMPROVES CONVERGENCE, ACCOMMODATION AT CLOSE DISTANCES, UNCONVERGENCE, UNACCOMMODATION AT FAR DISTANCES.
CENTRAL FIXATION; PLACE THE PART OF THE PEN THE EYES ARE LOOKING AT IN THE CENTER OF THE VISUAL FIELD, BETWEEN THE EYES AT EYE LEVEL.
THE CLEAR CENTER OF THE VISUAL FIELD MOVES WITH THE EYES AS THE EYES SHIFT FROM PART TO PART ON THE PENS.

SPACE THE PENS FARTHER APART OR CLOSER TOGETHER TO PRACTICE SWITCHING AT A VARIETY OF DISTANCES CLOSE AND FAR.
AT VERY CLOSE DISTANCES THE PENS SIZE MAY BLOCK THE VIEW OF OTHER PENS.
COLORED TOOTHPICKS CAN BE USED IN PLACE OF THE PENS WHEN SWITCHING AT VERY CLOSE DISTANCES; ALL TOOTHPICKS WITHIN 8 INCHES FROM EYES...
SEE DIAGRAM BELOW.
BE CAREFUL WHEN LOOKING AT THE TOOTHPICKS CLOSE TO THE EYES; KEEP ENDS AWAY FROM EYES.

COLORED TOOTHPICKS

Videos - Most of the Author's 133+ YouTube videos show switching, shifting, central-fixation examples. Scroll through the Videos to find Switching Training;

http://www.youtube.com/watch?v=r5JxOFVi3hc&feature=channel
http://www.youtube.com/watch?v=lkQ9KEpA8zE&feature=channel
http://www.youtube.com/watch?v=n1MWGeF0iU4
http://www.youtube.com/watch?v=lkQ9KEpA8zE&feature=related

School Children
By Emily C. Lierman

Davey

(Switching, Shifting Example)

Davey, eight years old, was very near-sighted, and the glasses he was wearing, made him nervous and irritable. His father had been told about the Bates Method and what could be done to restore perfect sight without wearing glasses. Davey's father brought the boy to me, although he was skeptical and his mother was even more so. I could tell by the little boy's attitude toward me that the Bates Method had been much discussed in the home circle, and that I was considered a sort of mystic worker.
The first question Davey asked me was, "What are you going to do to me?"
I answered, "I am not going to do anything to you, but I will try to do a whole lot for you. I will help you to get rid of your thick glasses that I am sure you don't like."
His answer was, "O, yes, I would like my glasses if I could see out of them. Father said that if you don't help me, he will try to find other glasses that will help."
I let the little fellow talk for a while, because I thought it would help me to understand him better. I told him I was especially interested in children and that it was always my delight to give school children better sight. I said I would not interfere with him, if glasses were what he wanted most. He said that he was afraid to play baseball or other games which might not only break his glasses, but perhaps hurt his eyes.
I tested his vision with his glasses on, and found that at ten feet from the regulation test card, he could see only black smudges on the white, but no letters.
Then I placed the card six feet away. All he could see at that distance was the letter on the top of the card, seen normally at two hundred feet. I then had him take off his glasses to see what he could read without them. He could not see anything at all on the card. I asked him to follow me to the window and to look in the distance and tell me what he could see. To the right of me, about one hundred feet away, there was a sign. The letters of this sign appeared to be about three feet square. One word of the sign had four letters. The first letter was straight and the last was curved, and had an opening to the right. I explained this to Davey, as I told him to look in the direction in which I was pointing, and then to a small card with fine print that I had given him to hold. I told him to read what he could of the fine print. He read it at two inches from his eyes. Under my direction, he alternately followed my finger as I pointed to the fine print and then to the building sign. He told me he could not see anything in the distance. Davey felt very uncomfortable because of his poor sight and became rather restless. I told him to hold the fine print card closer, and not to read the print this time, but to look only at the white spaces between the sentences, and to blink often. He shifted from the white spaces of the fine print to the sign in the distance, watching my finger as I pointed, first to the near point and then to the distance. Suddenly, he got a flash of the first letter of the first word on the sign. This practice was continued for twenty minutes, and then we had a rest period. Davey sat comfortably in a chair and palmed his eyes. Children are very apt to become bored with anything that takes time and patience, and I know that Davey had little patience with anything regarding his eyes.
I asked him questions about his school work, and what subjects he liked best. He said he just loved arithmetic. I asked his father to give him an example to do while he palmed. The little fellow thought this was great fun, and without hesitation he gave his father the correct answer for each example. This gave Davey a rest period of fifteen minutes. His mother remarked that this was the first time she had ever noticed him sit quietly for so long a time.

Long Swing and Sway

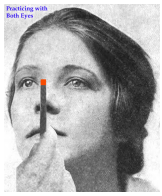
Davey was then shown how to swing, by moving his body slowly from left to right, and getting only a glimpse of the letters on the card, at six feet. When he looked longer than an instant at the card, he leaned forward and strained to see better, but failed each time. **When he learned not to stare, but to shift and blink while he swayed, his vision improved to 6/50.** We returned to the window. I told him to shift from the white spaces of the fine print, which I held close to his eyes, then to the distant sign, and he became able to read all of the sign without any difficulty.
Much had been accomplished in one treatment and both parents were grateful. Davey was given a card with instructions for home practice. He returned three days each week for further treatment. Every time he visited me, I placed the test card one foot further away. Eight weeks after his first treatment, he read all of the test card letters at ten feet. This was accomplished by reading fine print close to his eyes, then swinging and shifting as he read one letter of the card at a time.
This boy has sent other school children to me as well as a school teacher with progressive myopia, who practiced faithfully until she was cured. Every week, she sent me a report about her eye treatment and the progress she made. Her pupils noticed that she had discarded her glasses, and after school hours she invited some of them, who had trouble with their eyes, to practice the Bates Method with her. In eight weeks' time, her vision became normal, and all her pupils, with the exception of three, are improving their vision without the use of glasses.

A case of divergent vertical squint ultimately cured by educational methods. In the picture at the left the right eye turns out and up, while the left eye looks straight. At the right the patient has learned to look straight with the right eye, while the left turns down and out.

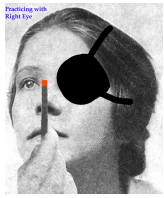
A part of the treatment. The patient has learned to turn both eyes in by looking at a pencil held over the bridge of the nose. Later she became able to turn them in without the pencil, or to turn either eye in while the other remained straight.

The same patient after a complete cure had been effected. All four pictures were taken within fifteen minutes of each other, the patient having learned to reproduce the conditions represented voluntarily

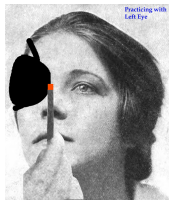
1-Both Eyes



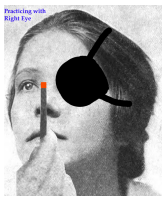
2-Right Eye



3-Left Eye



4-Right Eye



5-Left Eye

6-Both Eyes

See complete practice on the right >

After using the pen, practice with any close object; a t-bear, ring, flower in your garden...

Plain, Basic Switching;

A - Eight Steps for Switching Close and Far with Both Eyes Together and One Eye at a Time with the Pen and Far Object Between the Left and Right Eyes, at Eye Level in the Two Eyes One Central Field. Shift on the close object, then shift on the far, then close, then far... Shift on middle distance objects. Practice this with the 8 Steps below. (Picture is of a person facing you.) This person has 20/50 vision in the right eye and 20/100 (less clear) vision in the left eye. Practice brings the vision to equal, perfect 20/20 and clearer in both eyes at all distances. Practice with the close pen and far object at a variety of distances; 2 to 7 - 20 inches from the eyes. 2 feet to 5 -10, 25, 40, 300... feet into infinity.

Do not wear eyeglasses, contact lenses, sunglasses.

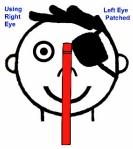
See the main book chapters for descriptions, directions for Shifting, Switching, Central-Fixation...

Right Eye **Left Eye**

1

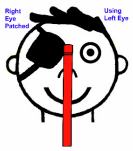
#1 -Practice with both left and right eyes together. 30 seconds to 2 minutes... as is comfortable.

2



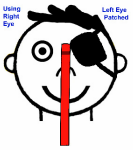
#2 -Practice with One Eye at a Time; Practice with the Right, clearest vision eye first to get the clearest visual, mental picture of the close and far objects stored in the brain, memory. (Patch the Left eye)

3



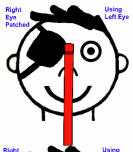
#3 -Practice with the Left, less clear vision eye. (Patch the Right eye)

4



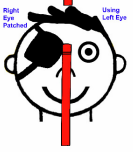
#4 -Practice with the Right clearest vision eye again. (Patch the Left eye)

5



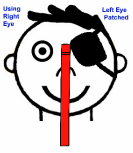
#5 -Practice with the Left, less clear vision eye. (Patch the Right eye)

6



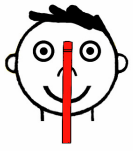
#6 -Practice extra time 10 - 30 seconds... with the Left, less clear vision eye. (Patch the Right eye)

7



#7 -Practice with the Right, clearest vision eye again, a short time, 2-5 seconds. (Patch the Left eye)

8

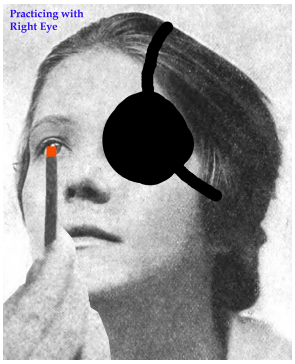


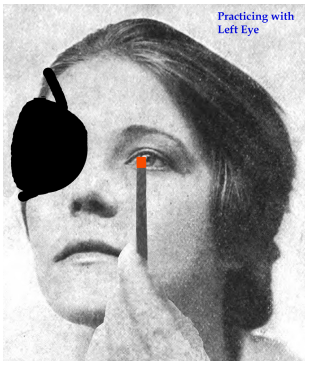
#8 - End; Practice with both left and right eyes together again for equally clear, balanced vision in the left and right eyes at all distances-close, middle and far.

Repeat Steps # 1-8

Next; practice B - 7 Steps Secret Switching #1 on the next page 410. Or; practice Secret Switching # 2 on page 412-414. Then return here and repeat these A - Steps # 1 to 8.

B - Seven Steps - Secret Switching # 1 with Pen & Far Object in Front of One Eye

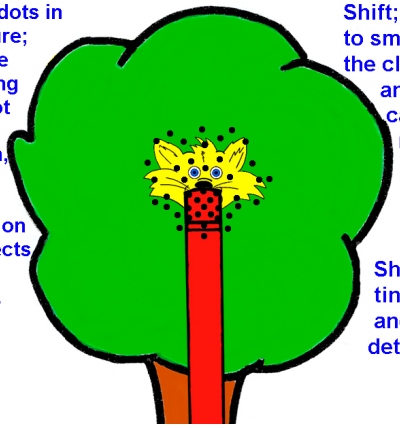




Switching Close & Far

The Pen and Yellow Kitty are aligned with eachother in the one eyes central field, in line with the eyes pupil.

Use the dots in the picture; Practice by shifting dot to dot in any direction, pattern. Then; practice on real objects without the dots.



Shift; small part to small part on the close pen and the far cat, tree near and around the top of the pen.

Shift on tiny parts and see fine details clear.

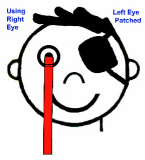
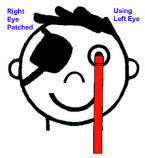
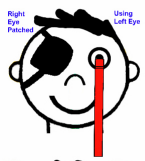
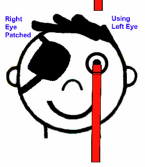
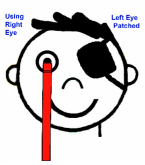
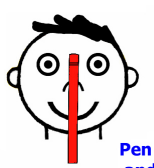
The pictures on this page show another type of Switching; 7 Steps for *Secret Switching #1*; changing 'switching' the eyes' focus, visual-mental attention back and forth on close and far objects with the close and far objects in front of one eye. *(Done only with one eye at a time. Never do this with the close pen and far object in front of one eye with both eyes together because that will disrupt convergence, divergence and cause crossed, wandering eyes and unclear vision.)*

Done correct, it specifically improves 'perfects' the eye's lens and eyeball's accommodation, un-accommodation (shape change), the lens and it's *ciliary* eye muscle function, outer eye muscle function, lens and eye circulation, central-fixation, shifting and clarity of vision to better than 20/20 in each individual eye. See picture above; Switching on the close red pen and far yellow kitty. Practice Steps # 1-6 on the right. >

Patch the eye not in use. Work with the non-patched eye; Place the red pen top and a far object (cat) in line with eachother, in front of the one eye, in front of the eye's pupil - in that one eye's exact central field. Move the pen top down a bit so you can see the far object. Shift part to part on the close pen top. Then switch to and shift on the far object (cat) that is in line with the pen top. Then back to the pen, then far again, then pen... Repeat. Blink and relax. Switch from the close and far objects to a middle distance object also in line with the eye, pen.

Next; practice with the other eye. (Use steps # 1-6 above.)

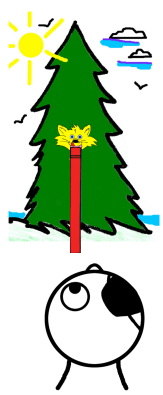
Step #7; Begin and end the practice with *both eyes together, the pen and far object between the left and right eyes*; repeat A - # 1-8 Steps on page 409. All 8 Steps. The switching practices produce perfect clear eyesight in the left and right eyes at all distances and helps correct Strabismus. See page 412, 413, 414 for Secret Switching #2.

	Right Eye	Left Eye
1		#1 -Practice with One Eye at a Time; Practice with the Right, clearest vision eye first to get the clearest visual, mental picture of the close and far objects stored in the brain, memory. (Patch the Left eye)
2		#2 -Practice with the Left, less clear vision eye. (Patch the Right eye)
3		#3 -Practice with the Right clearest vision eye again. (Patch the Left eye)
4		#4 -Practice with the Left, less clear vision eye. (Patch the Right eye)
5		#5 -Practice extra time 10 - 30 seconds... with the Left, less clear vision eye. (Patch the Right eye)
6		#6 -Practice with the Right, clearest vision eye again, a short time, 2-5 seconds. (Patch the Left eye)
7		#7 - End; Practice with both left and right eyes together again for equally clear, balanced vision in the left and right eyes at all distances - close, middle and far.

Pen and far object are always between the left and right eyes when using both eyes together.

Secret Switching #1 - Steps 1 to 6 above with one eye at a time. Pen and cat in the tree are in front of one eye.

Blink and relax. No tension. Do it nice and easy. Allow movement.



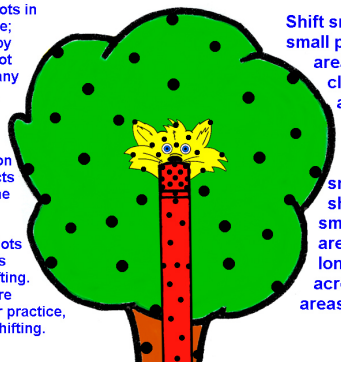
Using the Right > Eye. Eye, pen and cat are aligned in a straight line. Pen, cat are in front of the one eye's pupil.

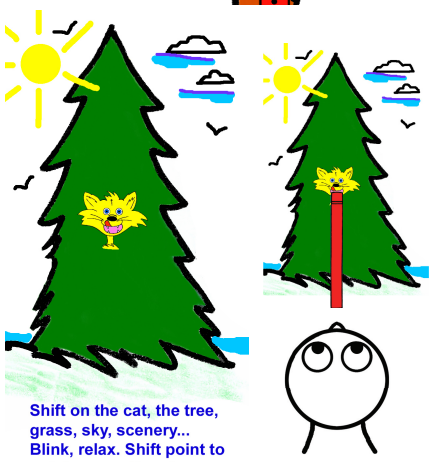
Using the Left < Eye. Eye, pen and cat are aligned in a straight line. Pen, cat are in front of the one eye's pupil.

More Switching Pictures, Examples;

Face directly at 2 objects at different distances in the central field; a close object and a far object in a straight line with eachother. Example; looking at the close red pen and far cat with *both eyes together*; they are in the central field and in line with eachother. Pen; 4 inches to 20 feet. Cat; 50 to 200+ feet.

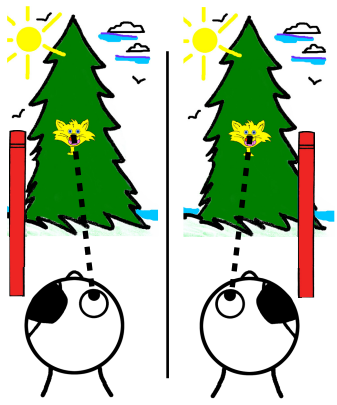
Practice shifting, switching on the pen and cat, using; A-#1-8 Steps on pg. 409; with the pen and cat between the left and right eyes, using both eyes together and one eye at a time. Also shift on the tree. Then; when returning to the pen; move to the cat in line with the pen; then switch from the cat back to the pen. Blink. Then do B-#1-7 Steps on pg. 410; with the pen, cat in front of one eye using one eye at a time. (At #7; place the pen, cat between the eyes).





< Alignment; Using Both Eyes. Close pen and cat in the far tree are lined up in the central field, between the left and right eyes, at at eye level.

Images are accentuated for easy view; The double image of the pen does not really appear to the side of the head as in the pictures. > It appears in front of the face, near the left and right sides of the nose, up at eye level. The width of the space between the 2 pen images changes as the pen is moved close and far.



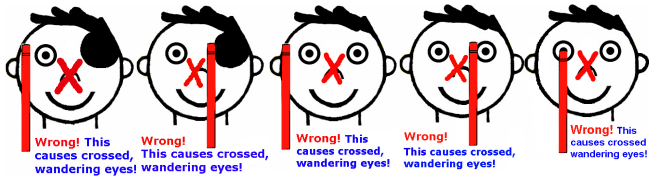
Pen & cat between the left and right eyes; in the central field.

Looking at Yellow Kitty in the far tree with both eyes; The close pen appears double in the peripheral field, images spaced evenly on the left and right sides of the cat. The cat-tree shows one single image.

Next; look at the close pen; now the far cat-tree appears double. The pen is single.

This is normal vision.

When using one eye, with the pen and cat between the left and right eyes; When looking at the cat in the far tree; the close pen 'appears' to be to the side of the cat as shown in the two pictures above. But; the pen & cat are really in a straight line, between the left and right eyes, in the central field. Keep the pen and cat between the left and right eyes. Continue to face straight ahead and; switch from the close pen to the far cat and from the cat back to the pen. The eye will converge inward to see the pen and move outward straight to see the cat. See pictures, follow the dashed - - - - line on next page.



When using both eyes together or one eye at a time with the *pen between the left and right eyes*; Do not place the pen and far object to the left or right away from the central field. Do not place them to the side of the eyes, face. Keep the objects between the left & right eyes, in the central field, at eye level. If the nose is not crooked; align objects perfectly with the center of the nose. Then move them up to eye level, between the left and right eyes. If the pen blocks view of the far object; move the pen top down a bit below the eyes pupil's center.

When practicing with the *pen in front of one eye, using one eye at a time*; Do not place the pen and far object to the left or right... away from the eye. Do not place them to the side of the eye or face. Keep the pen and far object in that one eye's central field.

Main rule; the eyes (when using both eyes), eye (when using one eye) faces directly at the object you are looking at. (See pictures above ^ for *wrong* placements of the pen. Avoid it.)

Never place the pen and far object in front of one eye when using both eyes together.

When using both eyes together or one eye at a time with the *pen between the left and right eyes*; Shift on the close pen, then switch to and shift on a far object in line with the pen, that is between the left and right eyes as the pen is, in the central field. Switch back to the pen. Shift on it. Then to the far. Shift on the far, then switch to the pen, then far. The eyes (eye, when using one eye) may then also shift on other far objects. The head moves with the eyes, (eye if using one eye) keeping objects in the central field.) Blink. When returning to the pen; line up a far object with the pen first, place it between the eyes, pen and far object in the central field, look directly at it and then move 'switch' from that far object back to the close pen.

When using one eye with the *pen and far object in front of that one eye's pupil*, that eye's central field; The eye shifts on the pen, then switches to and shifts on a far object that is in line with the pen, eye. Back to pen. To far. *Then*; the eye can also shift on other far objects in the scenery. (The head moves with the eye, look directly at-shift on the objects. Allow the eye to place the far objects between the left and right eyes.) This gives the eye freedom, more movement-natural function. Before returning to the pen; move to the original far object that is in line with the pen or line up a new far object with the pen (that one eye, it's central field). Then switch back to the pen. Shift on the pen. Blink. Repeat looking close and far.

Another practice with the pen between the eyes, using both eyes and one eye at a time; Move the pen close and far while shifting on it. Blink, relax. Allow relaxed body movement.

Walk close and far-forward and backward as you shift on a close, middle or far object.

See pg. 404+ and the E-books for more pictures, practice with close and far objects.

When using both eyes together, pen and far object between the eyes; When looking at the pen, the far object in line with the pen appears double. When using one eye; the far object is single and appears to not be in line with the pen, but it really is. So; switch to that far object from the pen and from that far object back to the pen. This keeps normal convergence, divergence, accommodation, un-accommodation, left & right eyes working together. (See pictures on < left and top left pg. 412. Other info. pg. 228, 404.

When looking at the pen with both eyes, the far object appears double.

When looking at the far object with both eyes, the pen appears double.

When using both eyes, there are no double images when all objects are far, beyond about 21-23 feet. There are no double images at any distances when using one eye.

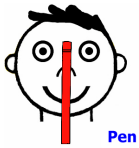
When using one eye with the *pen and far object in front of that eye*; the pen and far object are in line with eachother and they show that image. See pictures bottom right pg. 410. These are all normal images, indicates correct eye, vision, eye muscle and brain function.

For normal eyes-visual system function; the two eyes and head naturally move together to face the object you are looking at, but they do not always stop to line up objects as done in these switching practices. (unless applying a certain mental-visual measurement, comparison, depth, distance, time... determination.) These Switching Methods are only extra practices to improve the eyes' function, coordination and clarity of vision. Do not do it all the time. Start with 5-10 minutes 2x a day and skip some days. After it brings clear vision it's rarely needed. Switching is a type of an exercise; works-moves the eyes, lens, eye muscles, brain and vision. Do it relaxed and integrate shifting, centralizing, memory, imagination and other Bates Method practices to keep the exercise as natural as possible. Use no effort, no force.

The true perfect natural vision function is when we stop practicing, when we let the eyes, vision work 'on their own'. *Practice, then don't practice*. Relax, forget about the eyes, state of clarity. Just *Blink, Breathe, Shift and Move*. The level of clarity will increase to better than 20/20 at all distances! When practicing and when not; put the mind on something happy, fun.

Always start and end the pen in front of one eye practice (on the previous page #410) with A - #1-8 Steps for practicing with the *pen and far object between the left and right eyes, using both eyes together and one eye at a time* as shown in the picture below and pg. #409. This maintains perfect, equally clear vision, coordinated eye movement in the left and right eyes and balanced brain, brain hemisphere function with the eyes, retina, eye muscles.

These exercises and the entire Bates Method also removes astigmatism, cataract... The pen's distance from the eyes is varied; 2 - 24 inches to 20+ feet. Far object; any distance beyond the pen. See page 412, 413, 414 for Secret Switching #2 using one eye with the far object in a *different* placement; to the left or right. Helps to bring fast vision improvement.



Final Step; Practice with both left and right eyes together again for equally clear, balanced vision in the left and right eyes at all distances - close, middle and far.

Pen and far object are always between the left and right eyes when using both eyes together.

Continued from page 411, using Plain Switching A - # 1-8 Steps on page 409; Pictures below this paragraph show how to switch from the close pen to the cat in the far tree and from the cat to the pen when; using one eye, with the pen and cat between the left and right eyes, in the central field. The eye continues to shift, switch on the pen, then the cat, pen, cat... even when they 'appear' to be out of alignment 'side by side' when using one eye.

Using the Right Eye
Pen is between the left and right eyes, in the central field, but 'appears' to the < left. Switching from the pen to the cat in the tree. Follow the dashed line.

Using the Left Eye
Pen is between the left and right eyes, in the central field, but 'appears' to the right >. Switching from the pen to the cat in the tree. Follow the dashed line.

Follow the dashed line when switching from the cat back to the pen. Remember to shift on the object you are looking at. Blink. When switching with the pen, cat between the left and right eyes using one eye; the eye will naturally converge inward when looking at the close pen and un-converge (diverge) out straight when looking at the far cat. Just as the eye does when using both eyes together. The head-face is kept straight ahead facing the true position of the pen, cat; *same as the head-face is placed when using both eyes together*. This maintains and improves normal convergence, divergence, accommodation, un-accommodation, eye-lens movement.

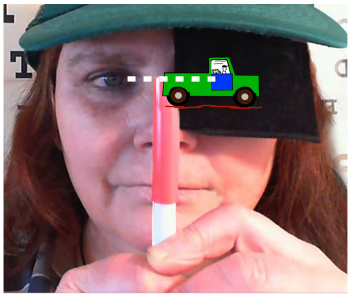
Secret Switching # 2; Switching back and forth on close and far objects with one eye, with the pen and cat in the tree between the left and right eyes. The eye switches to *another far object* that is seen beyond the pen top. The object is to the left or right of the cat as shown in the pictures on the right. >

Done correct, this specifically improves, 'perfects'; the eyes' lens and eyes' function, movement, accommodation, un-accommodation (shape change), the lens' ciliary eye muscle function and eyes' outer oblique eye muscle function, central-fixation, shifting.., circulation and clarity of vision to better than 20/20 in each individual eye.

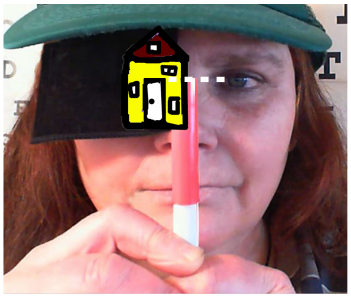
When practicing Secret Switching #2; a bit of convergence, divergence also occurs. The main action, improvement is accommodation, un-accommodation of the lens and eye and shifting.

Vary the pens' distance for all of the switching practices; 2 - 20 inches to 7ft. - 20, 40+ ft. Other objects can replace the pen; a street sign, it's pole, tree branch. A picture of all the steps to use when doing Secret Switching #2 for equally clear 20/20 eyesight in the left and right eyes is on page 413.

The pictures below and on pg. 413, 414 show the 3rd type of switching; Secret Switching # 2. Done with one eye. The pen (close object) and cat-tree (far object) are between the left and right eyes. The far object the eye is switching to is in *another placement*; it is to the side of the far cat-tree, is seen directly beyond the top of the pen at the position the eye is facing-converged toward. *Secret Switching #2 is done only with one eye at a time. Never do it with both eyes together because that will impair convergence, divergence, eye shifting movement and cause strabismus 'crossed, wandering eyes'.* The two pictures of the lady in the green hat are a front view of her practicing Secret Switching #2 with one eye. Switching to the far object (Right eye; truck. Left eye; yellow house) that is seen beyond the pen top. These are the images seen for Plain Switching A - # 1-8 Steps on the < left. Secret Switching # 2 is added to A - # 1-8 Steps by allowing the eye to also switch to the object that is seen beyond the pen top. See dashed line below. Pictures on bottom of this page and pg. 414 show how the objects appear to your eyes.



Using Right Eye. Switching from the pen to a far object (dog in truck, on the left) that is seen directly beyond the pen top.



Using Left Eye. Switching from the pen to a far object (yellow house, on the right) that is seen directly beyond the pen top.

For Secret Switching # 2 shown in the 2 pictures above ^ and 2 below; the pen is between the left and right eyes; keep it there. Do not move the pen to the left or right away from the nose. Pictures below show how the objects appear to you *when using one eye*; the image of the pen 'appears' to be on the left or right side of the cat-tree, but it is really between the left and right eyes as shown in the pictures above. The pen is aligned in a straight line with the cat in the far tree which is also between the left and right eyes. DO NOT move the pen away from the center of the face. Keep it between the eyes.

The truck and yellow house are not between the eyes. They are in the far distance to the left and right of the cat-tree. One of those objects is in line with the one eye's pupil when the eye is *converged*-facing, looking at the pen top. For Secret Switching #2; the eye stays converged and looks beyond the top of the pen to the far truck or house (depending on which eye is used).

DO NOT look out of the side of the face, eye to do this. Just aim the eye at the object that is beyond the pen top. See dashed line in pictures. (Do this only using one eye at a time); Switch back and forth-close and far on the pen top and far object that is seen beyond the pen top. Practice with one eye, then the other eye. Patch the eye not in use. If vision is less clear in one eye; practice 15 to 30 seconds EXTRA with that eye.

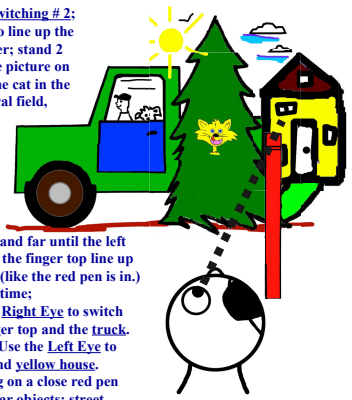
In the picture below a blue pine tree is in the visual field. It is NOT between the eyes. The pen and flag are between the eyes. The Right Eye is using Secret Switching #2, switching on the pen top and tree.

Secret Switching # 2
From the one eye's view; the far tree is seen directly beyond the red pen top.
Switch back and forth on the close pen and far tree with that one eye.
Then; patch that eye and use the other eye; find a object that is seen directly beyond the pen top and switch, shift on the pen and that far object. (Do not do this with both eyes together.)
Then; switch back and forth on the pen and far flag with both eyes together, then with one eye at a time. (Plain Switching)

Pen and flag are in the central field, between the eyes.

Practice Secret Switching # 2;
Use both eyes to line up the cat and your finger; stand 2 feet in front of the picture on the < left. Place the cat in the tree into the central field, between the eyes, at eye level. Place your finger in front of the cat, closer to you, between the eyes. Look at the cat and move the finger close and far until the left and right double image of the finger top line up with the truck and house. (like the red pen is in.)
Then; Use one eye at a time; Patch the left eye. Use the Right Eye to switch back and forth on the finger top and the truck. Then patch the right eye. Use the Left Eye to switch on the finger top and yellow house.
Next; practice switching on a close red pen (or any close object) and far objects; street signs, poles, trees, tree branches, leaves, buildings. See pictures ^. *Also practice at night.*

Using Right Eye



Using Left Eye

Use both eyes together to align the close and far objects (pen, cat) in a straight line. When looking at the cat (far object); the double images of the close pen are equally spaced on the left, right sides of the cat. When looking at the pen (close object); the double images of the far cat are equally spaced on the left, right sides of the pen. This indicates the objects are in a straight line with eachother and are in the central field, between the left and right eyes. (If one or both eyes has strabismus (wander out or cross in), or even if a slight imperfection in the convergence, divergence exists; the spacing of the double images might appear uneven. Fix it; set the objects up between the eyes using a straight rope connected to 2 poles in perfect alignment. Look at one object at a time and imagine the 2 images of the other object appear correct; are equally spaced, even height, not tilted. Then; imagine this with the eyes closed. Open, repeat. Shift, switch on the objects. Switching cures strabismus; the goal is to improve the vision in the wandering, crossed eye. Then central-fixation occurs, the eye will naturally move to correct position. Do the Phoria Swings in the E-books. Even if the eye moves normal for only a couple seconds; quickly apply a switching practice to improve the eye's vision. For keeping objects at eye level; when looking around at objects in the scenery as described on page 411; when looking at a object, the head/face will move with the eyes placing the object in the central field. Example; if you look up to the top of a tree; the head moves up with the eyes to place the top of the tree in front of the eyes-face, in the central field, between the eyes, at eye level; that is what *eye level* means. Just face the object. This helps to keep perfect central vision and relaxed, flowing eye, head and body movement-coordination. Switching Videos;
https://www.youtube.com/watch?v=05z_KIBh1t4 https://www.youtube.com/watch?v=-VULxwponv0 https://www.youtube.com/watch?v=knHMjB7T39A

Secret Switching # 2. Get the Eyesight Equal in the Left and Right Eyes, Improve it to 20/20 and Clearer at All Distances - Close, Middle and Far. Pictures below show; Order of Steps for Secret Switching #2 on page 412, 413, 414. (Images below; a person facing toward you, same as pictures on the top of page 412.)

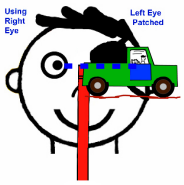
In this Example; Far Vision is Less Clear in the Left Eye. When using one eye, he starts with the Right (clearest vision) Eye.

Right Eye Left Eye

1

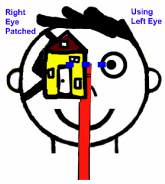
#1 -Practice with both left and right eyes together. 30 seconds to 2 minutes... as is comfortable. Also practice this with one eye at a time.

2



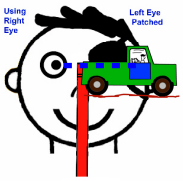
#2 -Practice with One Eye at a Time; Practice with the Right, clearest vision eye first to get the clearest visual, mental picture of the close and far objects stored in the brain, memory. (Patch the Left eye)

3



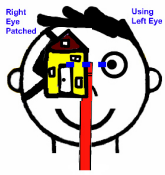
#3 -Practice with the Left, less clear vision eye. (Patch the Right eye)

4



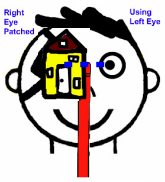
#4 -Practice with the Right clearest vision eye again. (Patch the Left eye)

5



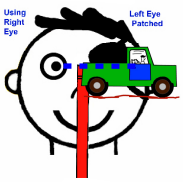
#5 -Practice with the Left, less clear vision eye. (Patch the Right eye)

6



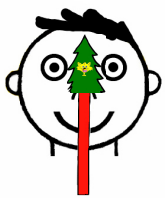
#6 -Practice extra time 10 - 30 seconds... with the Left, less clear vision eye. (Patch the Right eye)

7



#7 -Practice with the Right, clearest vision eye again, a short time, 2-5 seconds. (Patch the Left eye)

8



#8 - End; Practice with both left and right eyes together again for equally clear, balanced vision in the left and right eyes at all distances - close, middle and far. Also practice this with one eye at a time.

Number 1 and 8 are practiced with both eyes together and one eye at a time with the close red pen and a far object (Yellow Kitty in the tree) between the left and right eyes using A - Steps # 1-8 on page 409.

Number 2 to 7 (Secret Switching # 2) are practiced with the close pen between the eyes. The far object (truck, house) is seen to the left, right (depending on which eye is used) beyond the pen top when the eye is converged looking at the pen top. The eye (where you are looking) switches from the pen top to that far object.

#1; Switching on the close red pen and yellow kitty in the far tree with both eyes together and one eye at a time; with the pen and yellow kitty between the left and right eyes, in the central field. (A - Steps # 1-8 on page 409. All 8 Steps.)

Then; do Steps # 2 to 7 below using Secret Switching # 2 as shown on page 412, 414 and pictures on the < left;

#2; Using Right Eye; Switching on the close red pen and far truck that is seen to the left, directly beyond the pen top.

#3; Using Left Eye; Switching on the close red pen and far yellow house that is seen to the right, directly beyond the pen top.

#4; Using Right Eye; Switching on the close red pen and far truck that is seen to the left, directly beyond the pen top.

#5; Using Left Eye; Switching on the close red pen and far yellow house that is seen to the right, directly beyond the pen top.

#6; Using Left Eye; Switching 10 to 30 seconds extra on the close red pen and far yellow house that is seen to the right, directly beyond the pen top.

#7; Using Right Eye; Switching 2 to 5 seconds on the close red pen and far truck that is seen to the left, directly beyond the pen top.

#8 (Repeat #1); Switching on the close red pen and yellow kitty in the far tree with both eyes together and one eye at a time; with the pen and yellow kitty between the left and right eyes, in the central field. (A - Steps # 1-8 on page 409. All 8 Steps.)

Each eye has it's own central and peripheral field. The two eyes merge their central and peripheral fields into one large field with it's central field in the center, between the left and right eyes (as the red pen and yellow kitty are in pictures #1 and #8 on the < left and page 411).

When using one eye; that eye uses it's one visual field independently. The eye's central field is in the center of that eye's field. The eye places it's central field between the eyes. It's central field moves with the eye, directed to where the mind-eye 'you' are looking. The head moves with the eye.

When doing Secret Switching #1 and #2; the one eye's central field is not always between the eyes. The eye's central field moves to where the eye-mind are directed, 'looking'. Example; Secret Switching #1, pg. 410; the eye's central field is in front-center of that one eye when switching from the pen to the far object. For Secret Switching #2, pg. 412, 413, 414; it's central field is in front-center of the eye and is directed toward the object the eye is converged to when switching on the pen and far object (truck or house) beyond the pen top. See dashed line in pictures #2 to 7 on the < left; - - - - from the eye's pupil to the pen top, then to the far truck or house.

Secret Switching #2; using one eye, looking to the object that is to the left or right, seen directly beyond the pen top is not the complete natural way the eyes-vision function because; the far object is not in the TWO EYES one combined central field-between the left and right eyes as it would be when using the eyes-vision normally. But; when using Secret Switching #2; the far object beyond the pen IS in line with the one eye's central field and the red pen top *when the eye is converged to-looking directly at the pen top & beyond it.*

Secret Switching #1 and 2 are short extra practices. They are very effective, can correct strabismus, astigmatism and blurry vision, *but,* do not overdo it.

The main practice to use is A - Steps # 1-8 on page 409, with all objects in the central field-between the left and right eyes. That is the normal way the eyes, eye moves when practicing looking close and far on objects in a straight line with both eyes together and one eye at a time. This keeps perfect, balanced convergence, divergence, accommodation, un-accommodation, eye muscle function in the left and right eyes, the two eyes moving together, synchronized.

Secret Switching #1 and 2 are for extra perfection of accommodation, un-accommodation 'movement-shape' of the lens and eyes. Remember to also do A - Steps # 1-8 on page 409 to keep the two eyes, all eye muscles, vision, visual system and brain hemispheres balanced. The eyes-brain work together; even when one eye is patched; the patched eye moves 'converges, diverges' in the same direction that the un-patched eye moves to. The brain, thoughts, mental pictures, your interest, objects, moving objects (bird, butterfly flying, wind...) in the visual field, sound, touch, smell... activate the mind, eye movements.

(Note; For strabismus; some forms of crossed, wandering eyes might need a *variation* of Secret Switching #2 or other practices. Ask a Bates eye doctor. Or; use only A - Steps # 1-8 on page 409 and the Phoria Swings in the E-books.)

The amount of convergence, divergence is different depending on the distance the objects are at, distance the eye is switching to, from. It changes the most when doing Plain Switching A - #1-8 Steps on page 409. Secret Switching #1 and #2 produce a little change in convergence, divergence. Accommodation and un-accommodation change a lot for all 3 types of switching; Plain and #1, #2 Secret Switching. *These diagrams are simplified for easy viewing.* Example; In the top right picture on pg. 412, looking at the house beyond the pen; the house is really farther to the side as is seen in the picture on the bottom of the page. I left it as is on the top picture to show how the house appears beyond the pen top.

These 4 pictures show how the pen is truly placed; between the left and right eyes.

When using one eye; the pen will 'appear' to be to the < left of the far central object when using the right eye.
The pen 'appears' to be to the right > of the far central object when using the left eye.

See pictures on page 412, top left.

#1

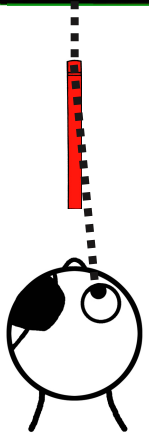
#2

Plain Switching - Pg. 409 > Using the Right Eye

Switching on the close red pen and area of the far house window that is aligned with the pen, between the left and right eyes, in the central field.

The eye converges in when looking at the close pen and un-converges out straight to look at the window on the far house.

This is the same practice as doing; A - # 1-8 Steps, page 409 when using one eye. It can also be done with both eyes together.

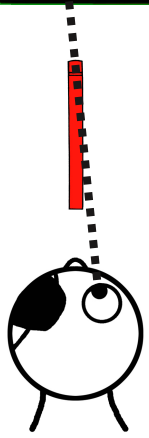


Pictures on the < left show Plain Switching with one eye. Pictures on the right > show Secret Switching #2 with one eye. The close pen is between the left and right eyes. The far object is between the left and right eyes when doing Plain Switching. When doing Secret Switching #2; the far object the eye is switching to is NOT between the left and right eyes. It is to the left or right (depending on which eye you are using) of the far central object and is seen beyond the red pen top. It is in line with the one eye's pupil, direction the eye is turned to when converged to look at the pen. The eye looks from the pen top to that far object that is seen beyond the pen top.

Keep the pen between the eyes, in the central field.

Switch back and forth; close, far, close, far on the pen top and the far object that is seen beyond it; Shift on the pen, then shift on the far, pen, far...

Shift on each object a few seconds or more; 5 to 10 seconds... Blink. Relax, move; avoid tension, immobility when switching, shifting on objects.



3rd Type of Switching < Secret Switching #2; Using the Right Eye

Switching on the close red pen and the boy in the far house window that is to the < left of the central field and is seen directly beyond the top of the red pen, in line with that eye's converged view. See the dashed - - - - line.

The eye converges in when looking at the close pen and remains converged to look directly past the pen top to the boy in the window on the far house.

The eye, it's central field is directed at and shifting part to part on the boy.

DO ONLY with one eye at a time. Never do this with both eyes together.

In pictures # 1, 2 above ^ the right eye is used.

Next; patch the right eye and use the left eye; Switch as shown in picture #3 >

Then do #4; Switch on a far object (cat) that is seen beyond the pen top when the eye is converged, looking at the pen. See dashed line from the left eye - - - - to the pen, - - - - - - to the cat.

Continue to keep the pen in the central field, between the left and right eyes as in the picture.

#3

#4

Include Centralizing (Central-Fixation) when doing any switching practice, shifting on close and far objects.

Example for Secret Switching #2; Look at the pen top and shift on tiny parts. Then; switch from the pen top to a small area of the far object that is close to the top edge of the pen.

Shift on tiny parts on that area of the far object and on other areas. Then back to the pen top.

Repeat.

Plain Switching - Pg. 409 > Using the Left Eye

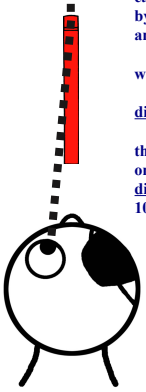
Switching on the close red pen and area of the far house window that is aligned with the pen, between the left and right eyes, in the central field.

The eye converges in when looking at the close pen and un-converges out straight to look at the window on the far house.

This is the same practice as doing; A - # 1-8 Steps, page 409 when using one eye. It can also be done with both eyes together.

To prevent tension in the hand, arm, tension traveling into the shoulders, neck, head and eye muscles and to enable free movement, relaxation;

place the pen upright on a table at eye level or hang it on a string.



After switching back and forth-close and far a few times; Switch to the far object; then you can move around 'shift' on other far objects. Shift from object to object and part to part on objects. Blink. The head-face moves with the eye, placing each object you look at between the eyes, in the central field by using Plain Switching with one eye as shown on page 409 and pictures on the < left. Before moving back to the pen;

For Plain Switching; move to the far object that is in line with the pen, between the eyes; then switch back to the pen.

For Secret Switching #2; look at the far object that is seen directly beyond the pen top; then switch back to the pen.

Make Secret Switching #2 Easy; just place the pen between the left and right eyes, in the central field, at eye level. Cover one eye; then switch on the pen and any far object that is seen directly beyond the pen top. The pen distance is varied; 2 to 10 inches to 20 inches and 2 feet to 10, 20, 30, 100+... feet.

Always begin and end the Secret Switching #2 practice with A - #1-8 Steps on page 409; Plain Switching with the pen and far object between the left and right eyes, in the center of the visual field, using both eyes together and one eye at a time.

Use Switching occasionally and switch with the Correct, Relaxed Natural Vision Habits Card (end of the book), read fine-microscopic print daily and shift as a habit for clear eyesight and healthy eyes.

3rd Type of Switching < Secret Switching #2; Using the Left Eye

Switching on the close red pen and the cat in the far tree that is to the right > of the central field and is seen directly beyond the top of the red pen, in line with that eye's converged view. See the dashed - - - - line.

The eye converges in when looking at the close pen and remains converged to look directly past the pen top to the cat in the far tree.

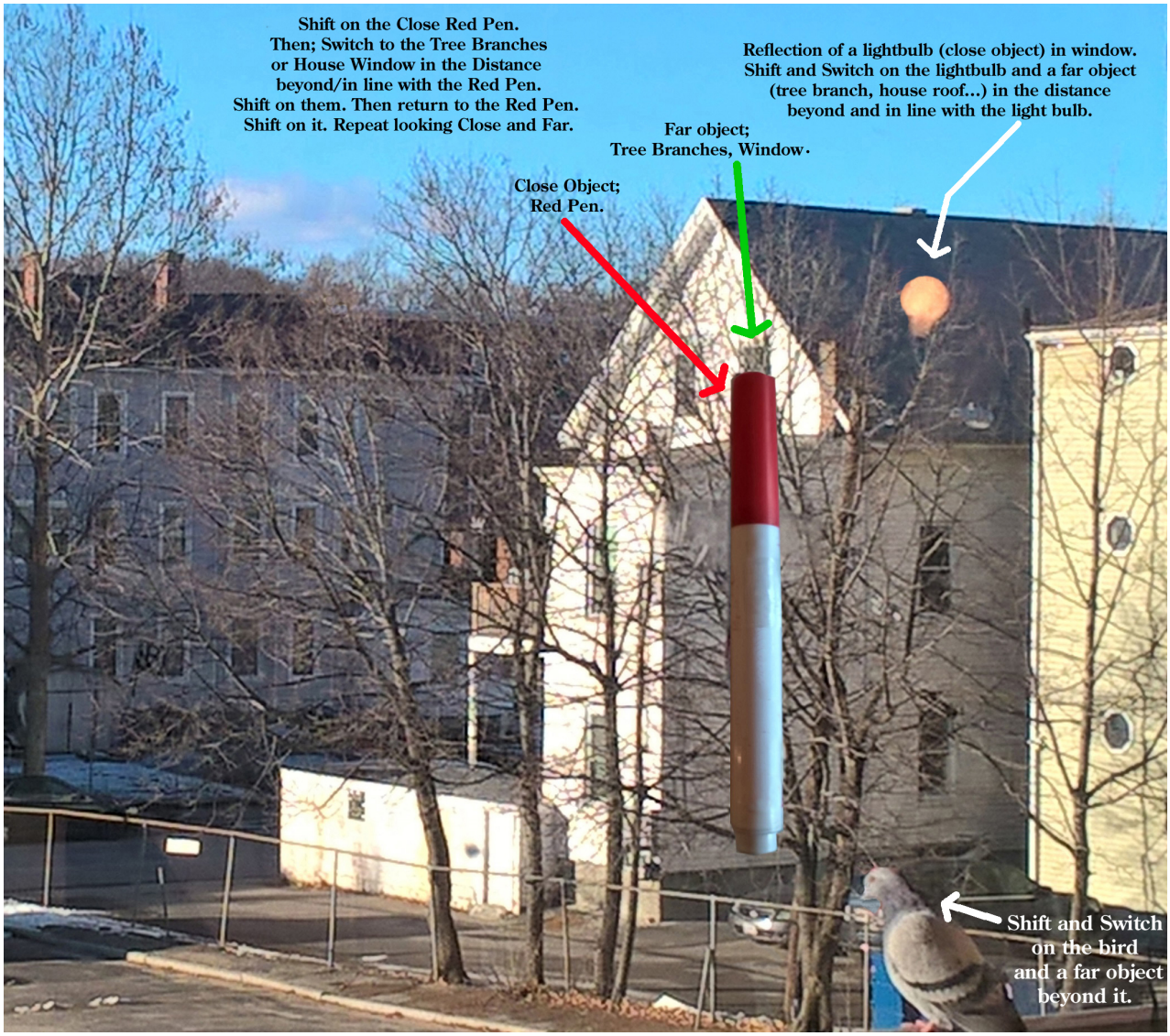
The eye, it's central field is directed at and shifting part to part on the cat.

DO ONLY with one eye at a time. Never do this with both eyes together.

See Dr. Bates' Squint Chapter on page 221 and his Better Eyesight Magazine for crossed, wandering eyes, double vision cures with switching, shifting... directions and pictures.

Switch back and forth on the Close Red Pen and Far Clock. Shift on them. Practice with; Both Eyes Together. Then, One Eye at a Time. Extra practice with the Less Clear Vision Eye. End with Both Eyes Together again.

Shift and Switch
on the
Close Red Pen and
Far House Window.
Far House
Window.
Close Object;
Red Pen
taped to
a window.


Shift on the Close Red Pen.
Then; Switch to the Tree Branches
or House Window in the Distance
beyond/in line with the Red Pen.
Shift on them. Then return to the Red Pen.
Shift on it. Repeat looking Close and Far.
Reflection of a lightbulb (close object) in window.
Shift and Switch on the lightbulb and a far object
(tree branch, house roof...) in the distance
beyond and in line with the light bulb.
Far object;
Tree Branches, Window.
Close Object;
Red Pen.
Shift and Switch
on the bird
and a far object
beyond it.

Your eyes are at this level
You are standing here
Shift part to part on the close street light pole.
Then switch to the far pole. Shift on the far pole.
Then switch back to the close pole. Repeat.
Switch to the 3rd far pole from/to the close or middle pole. Shift part to part on each pole you switch to.
Switch to and shift on other objects on the street...

A typical case of convergent squint or "cross eyes."

The same patient cured by rational methods of eye training.

TREATMENT. One patient, forty years of age, had been blind from birth. The corneas of both eyes were totally opaque, so that it was impossible to see the color of the iris. The patient was helpless on the street and required someone to lead him. Central fixation, the use of his memory and imagination, and other methods for the relief of eyestrain were practiced. The sun treatment was especially beneficial. The patient was taught to expose his closed eyelids to the sun for many hours daily.

At the end of a few months' treatment, he became able to recognize people on the street. He was taught the alphabet and the names of the figures. When his knowledge of the letters became perfect, he was able to read the Snellen test card, 20/20. He was also able to read fine print without glasses. After thirty-five years, his friends reported that his eyes were still normal.

Another case was that of a woman, aged seventy-five, who had to be led into the office. She had suffered from inflammation of the cornea of both eyes for many years, and had frequent attacks of ulcers. From time to time, these ulcers would heal, but they always left a scar.

When the patient was first seen, a scar tissue involved the whole cornea, so that one could not distinguish the colored part of the eye. I believe that eyestrain was the only cause of the trouble, because the sun treatment, palming and swinging, brought about an improvement so that the cornea became perfectly clear, and the vision of the patient for distant and near objects was normal.

The Blindness of Squint or Amblyopia Ex Anopsia

In cases of squint, the vision of the eye which turns either in or out is variable. In many cases, the squinting eye may have normal vision, but in the majority of cases, the vision may be very much lowered, and in rare cases,

the squinting eye may be totally blind with no perception of light.

CAUSE. There have been many theories proposed to account for the blindness of squint. I have found, however, that the cause of the blindness is due to eyestrain.

TREATMENT. The vision of these cases is benefited by relaxation methods—palming, swinging, and the use of the memory or the imagination. A letter may be imagined perfectly or imperfectly. When imagined imperfectly, the vision is always lowered. When imagined perfectly, with the eyes open as well as with the eyes closed, the vision is always improved. By remembering or imagining a letter, with the eyes closed for half a minute or longer, one becomes able to imagine a letter quite perfectly with the eyes open for a few seconds. Repeat.

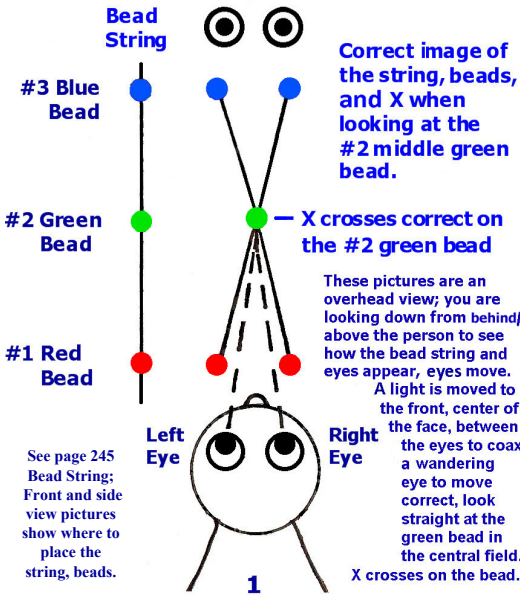
CASE HISTORY. In one case, a woman, about thirty years of age, was totally blind in the right eye which turned in, although the eye itself was apparently normal. That is to say, there were no opacities in any part of the eye, and the retina and optic nerve were normal.

With both eyes open, the vision was 15/20. By practice, with the aid of her memory and imagination, the vision, with both eyes, soon became normal without glasses, 15/10. Coincident with the improvement of the vision of both eyes together, which meant an improvement in the vision of the left eye, the patient gradually became able to distinguish light in the right or blind eye. In less than two weeks, after daily treatment, the vision of the right eye became normal and the eyes straight.

It seems curious that so many articles have been published on amblyopia (dim-sightedness) ex-anopsia (from lack of education or use of eye) without going further and studying the results of the opposite of ex-anopsia,—relaxation methods of treatment.

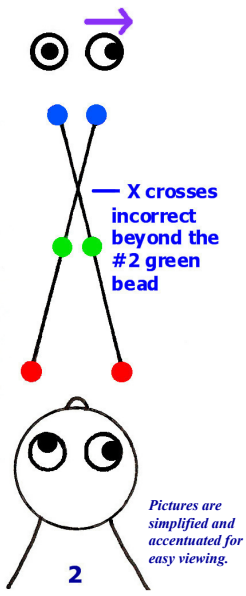
Phoria Directional Swings

Eyes normal, in correct position, looking at the green bead, in the center of the visual field.



See page 245 Bead String; Front and side view pictures show where to place the string, beads.

Right eye wanders out to the Right.



Pictures are simplified and accentuated for easy viewing.

With both eyes; look beyond the string at a far object, or look before the string at a close object; the string and all beads appear double; 1 string with 3 beads on the < left. 1 string with 3 beads on the right >. The strings do not cross - the X does not appear.

Next; look at a bead. The strings cross and form a X on the bead.

Normal eyes see the 2 images of a bead move closer together as you look closer and closer toward the bead. The 2 images merge into one bead when the eyes (central field) look directly at the bead, converge, diverge perfectly for the distance it is at.

Width of the space between the left, right 'double' image of the beads the eyes are *not looking at* changes with; the distance the beads are from the eyes, eachother, which bead or area of the string the eyes are looking at.

The size that a bead 'appears' to be changes when viewed at different distances from the eyes;

Closest = biggest, Far = smallest.

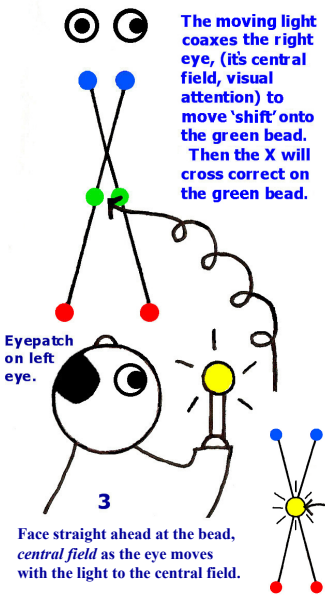
A wandering or crossed eye alters the bead's position and space between a bead's double image more or less depending on the amount and type of the strabismus. Example; a right eye that wanders out to the right > makes the bead it is looking at 'appear' to move to the < left. Try it; Patch the left eye. Look at the green bead with the right eye, then move 'shift' the right eye out to the right >. The green bead appears to move to the < left.

See pictures on page 241, 245.

A typical case of convergent squint or "cross eyes."

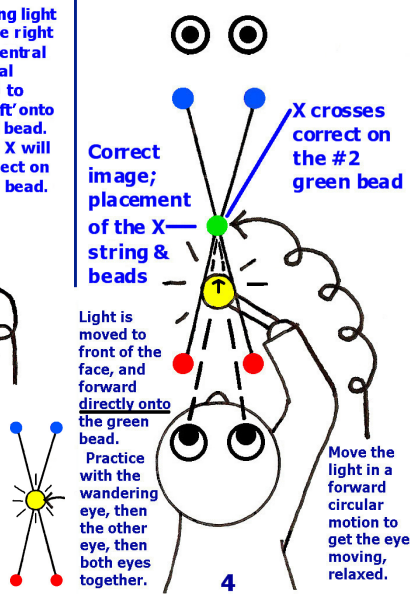
The same patient cured by rational methods of eye training.

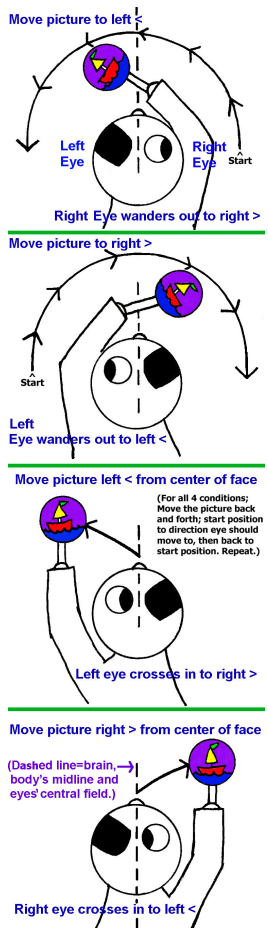
A Moving Light is used to gently, with relaxation, coax the right eye to move to correct position.



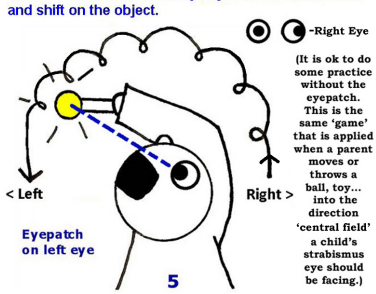
Face straight ahead at the bead, *central field* as the eye moves with the light to the central field.

Right eye has moved correct, to the center of the visual field, is looking at, shifting on the #2 green bead with the left eye.





Practice without the bead string; move the eye all the way to the left <. Practice with and without the patch; right eye moving *with* the left eye. Practice moving the eye, eyes with the light as it moves left <, right >, up ^, down v, diagonally, circular, close, far... Practice steps 1, 2, 3, 4 without the bead string; place any object in the central field and move the eye/eyes to the central field and shift on the object.



Picture above ^; Practicing Without the Bead String. (Pictures are an overhead view, *your* left and right sides.)

The outward wandering right eye has moved with the light from the right > side of the face to correct position; front of the face, *central field*. Then; the light, eye moves to the < left. Blink and relax. After the eye has moved with the light from the right side to correct position *front of the face, looking in the central field-between the eyes*; keep the light in the central field and move the head/face with the eye, in the same direction as the light and eye move to the left side. This keeps the eye muscles relaxed, prevents tension, strain and pulling of the eye and muscles. The goal is to get the left and right eyes to move together, in the same direction.

To test full eye movement; the eye can move left without the head/face, as in picture #5 (*gently, no force!*) the first time it moves correct. After that; use the eye *completely normal*; the *head/face moving left with the eye, in the same direction*. After working with the strabismus eye; always work with the other 'normally moving' eye. (patch the strabismus eye). Light is between the eyes. Move the light and shift on it. Move the head/face with the eye to keep the moving light in the central field. End by working with both eyes together. This balances the left and right eyes' vision, eye muscle function, brain-visual cortex-left, right brain hemisphere function with the left, right eyes, eye muscles.

When using the light (or the picture) when not wearing the eyepatch; you can start by placing the light in front of the strabismus eye, *where it is facing*. Coax the eye to move correct by moving the light to the central field. When the eye has moved correct; *is facing the central field-between the eyes-the same direction as the normal positioned eye*; Then, *do not* place the light in front of one eye. Keep the light between the eyes, in the central field when using both eyes together, and when using one eye at a time. *Move the head/face with the eyes. Eyes, head/face moving together, in the same direction* (correct direction normal eyes move to).

Use the Bead String; Pictures #1-5 show how to correct a right eye that wanders outward. Move a small light in front of the face, in the central field; *between the eyes, at eye level* to coax a wandering or crossed eye to look at/move with the light to correct position; to the central field. (See example in picture #3); Start by placing the light at the position the right wandering eye is facing. Then; move the light to in front of the face, into the central field, *between the left and right eyes, at eye level*. The eye, it's central field looks at and moves with the light. (See picture #4.) Then; move the light forward onto the green bead. Option; Move the light from the starting position directly onto the green bead (as is shown by the circular line-arrow in picture #4, and in the small picture above, light on the green bead.)

The bead string, beads are in front of the face, between the eyes, in the central field. The light moves onto the bead; bead and light in the central field, the left and right eyes (their foveas) are facing the bead/central field. When both eyes are in correct position, looking at the bead; the 2 images of the bead merge into one bead. The 2 strings cross and form a X on the bead. Shift part to part on the bead. Trace around on the edge of it clockwise, counter-clockwise. Blink. Look close and far along the string; the X moves with the eyes.

Next; Practice with the red and blue beads. Vary the distance of the beads and light. Normally the head moves with the eye, eyes. Read directions for pictures on the right >.

Pictures above show how to correct 4 types of Strabismus. Move a colorful picture of a boat (or a light...) to attract the eye, mind's attention, induce correct eye movement; get the eye to move to/face the central field. The eye moves *gently, easy. Do not force, stretch, strain the eye, muscles.* When the eye moves correct; the head/face moves with the eye. Head and eye facing in the same direction.

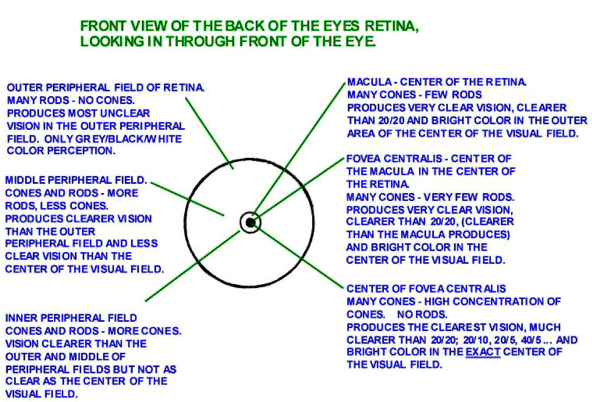
For Phoria Swings (see the PDF E-books); When the strabismus eye moves correct, to the central field; practice switching, shifting on the Bead String or Pens in a Row or any in-line close and far objects to get the vision clear in that eye. A crossed, wandering eye will move correct when the vision in the eye becomes clear or gains some clarity and when the clarity is improving in both left and right eyes and is or is becoming equal in both eyes.

Also do the Cross Crawl, Figure Eight and other left, right brain hemisphere activation, integration practices.

Central-Fixation-Central, 'Fovea' Vision

CONES - LIGHT RECEPTORS IN THE RETINA. PRODUCE VERY CLEAR FINE DETAILED VISION AND BRIGHT COLOR PERCEPTION.

RODS - LIGHT RECEPTORS IN THE RETINA. PRODUCE LESS CLEAR VISION. RODS PERCEIVE LIGHT/ DARK, BLACK/GREY AND WHITE COLOR. RODS DETECT MOTION, OBJECTS MOVING IN THE VISUAL FIELD. EXAMPLE; A OBJECT (BIRD....) MOVES IN THE PERIPHERAL FIELD, THE RODS DETECT IT AND THE PERSON TURNS AND LOOKS DIRECTLY AT THE BIRD, PLACING IT IN THE CENTER OF THE VISUAL FIELD TO SEE IT CLEAR. RODS ALSO CONTINUE TO FUNCTION IN VERY DIM LIGHT, ALMOST COMPLETE DARKNESS.

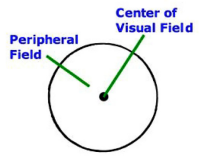


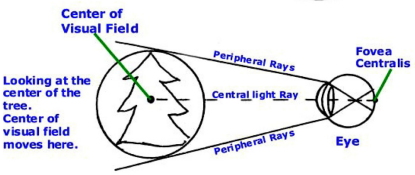
Since small objects cannot be seen without central fixation, the reading of fine print, when it can be done, is one of the best of visual exercises, and the dimmer the light in which it can be read and the closer to the eye it can be held the better. Read fine print in the sunlight daily. No eyeglasses!

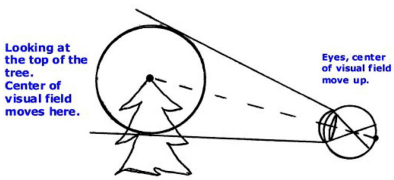
I think its lots of fun playing tag with the memory or mental pictures. I like to dig out of my memory all the perfect mental pictures I can—one by one—for Central Fixation plays a big part in mental pictures, remembering one thing best at a time.

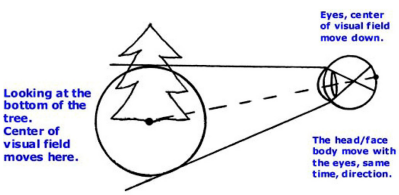
Having once been to Canada my favorite way of getting relaxed is to go there by mental pictures. I go along a beautiful country road, remember a lake that had impressed me, visualize it with my mind's eye and so on. Sometimes I skip a couple of towns and arrive in Canada very quickly and other times I get enough relaxation by just staying in one town for a while.

Central Fixation and Shifting.
The center of the visual field moves, shifts with the eyes, point of visual attention.









The eyes face directly at the object of visual attention, placing the center of the fovea centralis/visual field directly on the part of the object the eyes are looking at.
The eyes, head/face, center of visual field are directed at the part of the object the eyes are looking at.
The center of the visual field moves with the eyes (& head, face) as the eyes move 'shift' from part to part on the object and from object to object.

The Central light ray from the part of the object the eyes are looking directly at/center of visual field focuses on the exact center of the fovea centralis in the center of the macula, eyes retina.
Peripheral rays focus on the peripheral areas of the retina.
Vision is perfectly clear.

Palming

Palm and remember, shift on a favorite object: flower, colorful stone, jewelry, tree, land, old house... Improving the memory, imagination of clear mental pictures relaxes the mind, body, eyes and improves the vision.

Palm and imagine drifting down a river. See objects in color, clear, motion. Movement of the boat, water, wind, birds flying, sun shining, sparkling on the river, animals walking on the shore, colorful dragonflies... Imagine all the senses; touch, warmth of sun, feel the breeze, hear the water, birds, wind, taste your favorite drink..

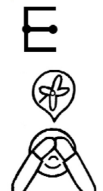
Palm and remember a sunset, blue sky, white cloud... and shift part to part on the objects and from object to object. Then, it is easy to remember a clear, black letter o. Place the o on the white cloud and shift on the o and see it move, 'swing' opposite the shift of the eyes. Open the eyes, vision is clear.

Remember pleasant objects, favorite scene, adventure, activity... Remember, imagine objects clear, in color, motion: Birds, butterflies flying about, wind blowing the tall grass, flowers, sun sparkling on the mountain tops, river. Shift on the objects. Shift on, see in the mind small fine details clear.

Sunlight and Sunning daily
Sit in the sun, eyes open looking at the bright sky, then eyes closed facing the sun and move the head side to side, up and down...

Remembering, Imagining clear mental pictures improves the memory, imagination, relaxation and clarity of vision.
The girl palms and thinks of her doll, (a favorite thing), remembers, imagines, shifts part to part on her doll seeing one part best at a time (Central Fixation). Doll is imagined clear, in color. This improves the memory, imagination and clarity of vision for other objects.
Remembering mental pictures of a pleasant object, subject relaxes the mind, eyes, improves the vision.
She shifts on a clear mental image of her kitty cat.
Sees it in motion, playing.

Shift left and right on the E and see it move in the opposite direction.
+Shift to the dot on the left, The E moves right.
+Shift to the dot on the right, the E moves left.



Palm and imagine black or any pleasant object, scene... Think happy thoughts. Shift on objects in the mind, see them clear, in color, motion.

Girl palms and remembers her doll, color of its dress... Opens the eyes and Eyechart letters are seen clear.

Perfect mental pictures, relaxation=clear vision.

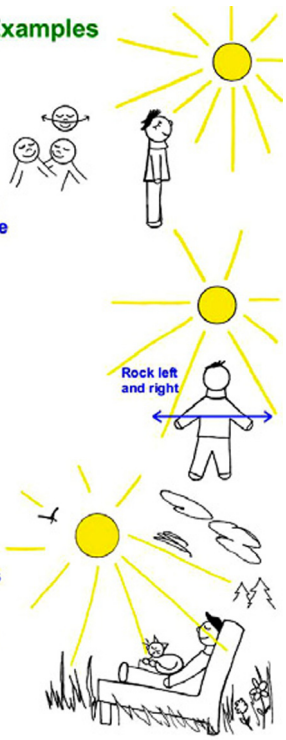
Sway, dancing to music improves clarity of vision and straightens the eyes, gets them moving together.

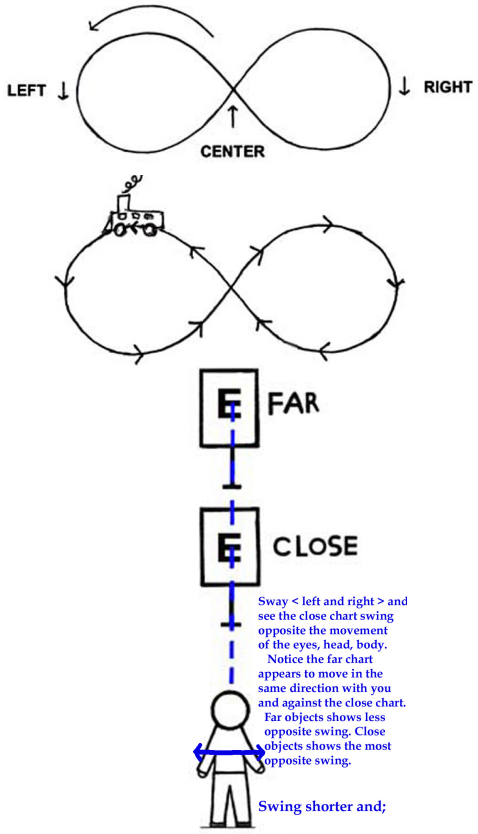
Sunning Examples

Face the sun with the eyes closed and move the head/face slowly, relaxed side to side; left, right, left, right... Feel and see the sun move across the face/closed eyes. Then, move the head/face up and down, then circular; trace around the sun counter clockwise, clockwise. The eyes, head/face (and body) move together, at the same time, in the same direction.

Do the rock while sunning; Face the sun with the eyes closed and rock the entire body side to side, left and right. Do the long swing.

Sit facing the sun, relax, eyes closed and daydream pleasant thoughts. Occasionally move the head/face side to side.



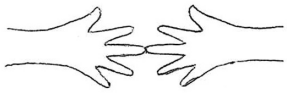


Sway < left and right > and see the close chart swing opposite the movement of the eyes, head, body. Notice the far chart appears to move in the same direction with you and against the close chart. Far objects shows less opposite swing. Close objects shows the most opposite swing.

Swing shorter and;

Switch, shift on letters on two identical eyecharts placed at close and far distances.

THE FIGURE EIGHT – INFINITY SWING

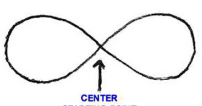


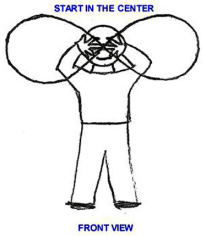
THE FINGERTIPS OF THE 3RD FINGER OF THE LEFT AND RIGHT HANDS TOUCH WITH THE PALMS FACING IN TOWARD THE FACE.
THIS IS THE START POSITION AT THE CENTER OF THE FIGURE EIGHT.

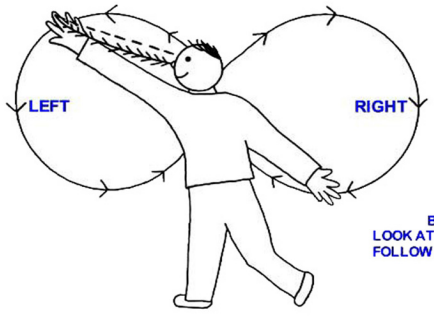
DRAW THE FIGURE EIGHT WITH THE EYES, HAND AND END OF THE NOSEFEATHER WHILE DOING THE LONG SWING.
FOLLOW THE ARROWS - START IN THE CENTER AND DRAW UP THE CENTER AND TO THE LEFT FIRST. DRAW THE LEFT SIDE AND BACK UP THE CENTER. THEN DRAW THE RIGHT SIDE; DRAW LEFT, RIGHT, LEFT, RIGHT...

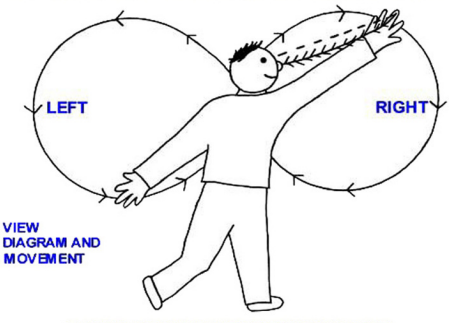
DRAW THE LEFT SIDE FIRST WITH THE LEFT HAND.
SWING, TURN LEFT AND LIFT THE HEEL OF THE RIGHT FOOT.
EYES LOOKING AT/SHIFTING ON AND MOVING WITH THE CENTER FINGERTIP OF THE LEFT HAND AS THE HAND DRAWS THE EIGHT.
THE END OF THE NOSEFEATHER AND EYES (VISUAL ATTENTION) ARE ON AND MOVING WITH THE LEFT HANDS CENTER FINGERTIP.
PALM OF HAND IS FACING IN TOWARD THE FACE WHEN IN THE CENTER, THEN MOVES OUT STRAIGHT WITH THE ARM AS THE HAND DRAWS THE LEFT SIDE..

DRAW THE RIGHT SIDE WITH THE RIGHT HAND.
SWING, TURN RIGHT AND LIFT THE HEEL OF THE LEFT FOOT.
EYES LOOKING AT/SHIFTING ON AND MOVING WITH THE CENTER FINGERTIP OF THE RIGHT HAND AS THE HAND DRAWS THE EIGHT.
THE END OF THE NOSEFEATHER AND EYES (VISUAL ATTENTION) ARE ON AND MOVING WITH THE RIGHT HANDS CENTER FINGERTIP.
PALM OF HAND IS FACING IN TOWARD THE FACE WHEN IN THE CENTER, THEN MOVES OUT STRAIGHT WITH THE ARM AS THE HAND DRAWS THE RIGHT SIDE.









BACK VIEW
LOOK AT THE DIAGRAM AND FOLLOW THIS MOVEMENT

LOOKING, MOVING LEFT WHEN DRAWING THE LEFT SIDE ACTIVATES THE RIGHT BRAIN HEMISPHERE AND CLEAR DISTANT VISION.

LOOKING, MOVING RIGHT WHEN DRAWING THE RIGHT SIDE ACTIVATES THE LEFT BRAIN HEMISPHERE AND CLEAR CLOSE VISION.

MOVING BACK AND FORTH; LEFT, RIGHT, LEFT, RIGHT AND PASSING ACROSS THE CENTER OF THE EIGHT (MIDLINE/CENTER OF THE BRAIN AND BODY) ACTIVATES AND INTEGRATES THE LEFT AND RIGHT BRAIN HEMISPHERES, CLEAR CLOSE AND DISTANT VISION AND EQUALLY CLEAR PERFECT VISION IN THE LEFT AND RIGHT EYES.

DRAWING THE FIGURE EIGHT RELAXES AND BRINGS MOVEMENT TO THE EYES, HEAD/FACE, NECK, BACK AND BODY AND ACTIVATES CORRECT VISION HABITS.
THIS ALSO IMPROVES THE CLARITY OF EYESIGHT.

The Figure Eight - Infinity Swing

EYECHARTS

Letter size for the charts on the following pages are approximate; print from the PDF E-Book and resize with a copy machine for exact measurement. Print the 20/20 line 3/8 inches. When letters on that line and below are clear; vision is clearer than 20/20 for distant vision at 20 feet and farther. Print the charts small and fine print for close vision practice at 5 feet and up to 1 inch from the eyes.

Read, See Small letters Clear on a Familiar Eyechart Daily;
Both eyes together, one eye at a time, both eyes together again.

SNELLEN TEST CARDS

There should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when it is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

For Sale By

The Central Fixation Publishing Company

Paper ....50 Cents

Cardboard (folding) .....75 Cents

DELIVERED

Back numbers BETTER EYESIGHT: single copies, 30 cents; first and second years, unbound, $3 each; bound in cloth, $1.25 extra. Photographic reductions of the Bible,$4. Ophthalmoscopes (best quality), $20. Burning glasses, $4. Reprints of articles by Dr. Bates in other medical journals, a limited number for sale. Send for list.

Eyechart Videos

Videos are on Youtube. Download with Real Player SP.
Watch on computer. Can also be converted for television.

http://www.youtube.com/watch?v=sM-EHgC-J6w&feature=channel
http://www.youtube.com/watch?v=863yFmc-Ius&feature=channel
http://www.youtube.com/watch?v=mYpsYPPV_hg&feature=channel
http://cleareyesight.info/id79.html

How to Use the Snellen Test Card

FOR THE

Prevention and Cure of Imperfect Sight in Children

The Snellen Test Card is placed permanently upon the wall of the classroom, and every day the children silently read the smallest letters they can see from their seats with each eye separately, the other being covered with the palm of the hand in such a way as to avoid pressure on the eyeball. This takes no appreciable amount of time, and is sufficient to improve the sight of all children in one week and to cure all errors of refraction after some months, a year, or longer.

Children with markedly defective vision should be encouraged to read the card more frequently.

Records may be kept as follows:

John Smith, 10, Sept. 15, 1918.
R. V. (vision of the right eye) 20/40.
L. V. (vision of the left eye) 20/20.

John Smith, 11, Jan. 1, 1919.
R. V. 20/30.
L. V. 20/15.

The numerator of the fraction indicates the distance of the test card from the pupil; the denominator denotes the line read, as designated by the figures printed above the middle of each line of the Snellen Test Card.

A certain amount of supervision is absolutely necessary. At least once a year some one who understands the method should visit each classroom for the purpose of answering questions, encouraging the teachers to continue the use of the method, and making a report to the proper authorities.

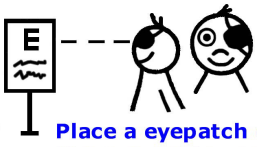
It is not necessary that either the inspector, the teachers, or the children, should understand anything about the physiology of the eye.

Man improves vision in his left eye, the eye with less clear vision.
+Shift on letters on the large distant card and close fine print card with the left eye. Blink.
+Shift on a letter with the eye open and remember, imagine it clear.
+Then: repeat in the imagination with the eye closed.
+Open, repeat.

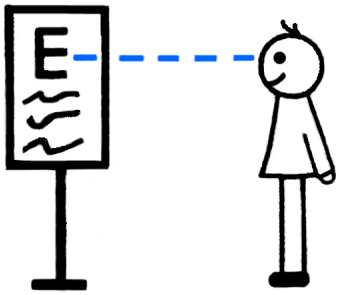
Next; use the black letters on white paper card;

+Look at and remember, imagine the white spaces between sentences, and the white areas in and around letters are pure, bright white. Do this with; the eye open, closed, open.
+Then: look at the black print and see, read it clear.
+Last: practice with the right eye, then left again, then both eyes together.

Shift on letters on a eyechart (test card) with
+both eyes together, then
+one eye at a time, then
+both eyes together again.



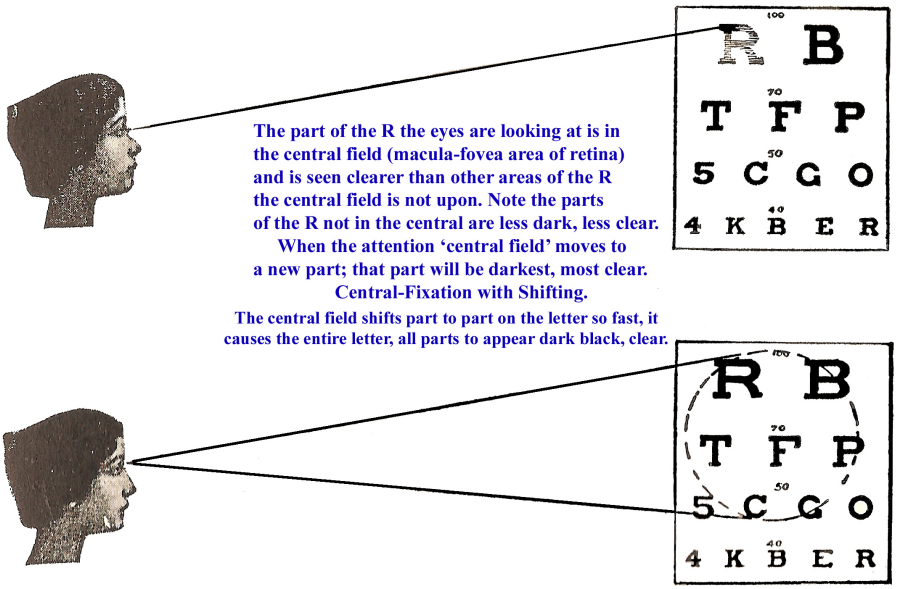
Place a eyepatch over the eye not in use and keep the eye open under the patch.



10 Ft. to 20+ ft.

20 FT. / 20 LINE

Read the test card daily in good light, sunlight is best. Shift on a letter and remember, imagine it clear, correct with the eyes open, then in the imagination with the eyes closed, then with the eyes open again. Repeat. Blink. Practice on smaller letters. Practice with both eyes together, one eye at a time, then both eyes together again. Practice with the chart at various distances 5 ft. to 200 ft. + Practice on fine print at 20 inches and closer to 3, 2, 1, inches from the eyes.



The part of the R the eyes are looking at is in the central field (macula-fovea area of retina) and is seen clearer than other areas of the R the central field is not upon. Note the parts of the R not in the central are less dark, less clear.

When the attention 'central field' moves to a new part; that part will be darkest, most clear.

Central-Fixation with Shifting.

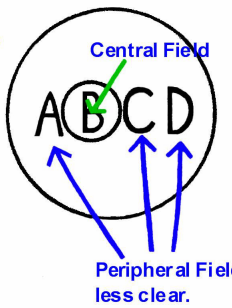
The central field shifts part to part on the letter so fast, it causes the entire letter, all parts to appear dark black, clear.

In the upper picture the sight is centered upon one spot, the upper left-hand corner of the letter R, which is seen more clearly and appears to be blacker than the rest of the field of vision. This is central fixation. In the lower picture the subject is endeavoring to see every part of her field of vision equally well at the same time. This is eccentric fixation and always accompanies eye strain.

Upper picture; the less black, less clear parts of the R <u>not</u> in the central field is accentuated to emphasize what central-fixation is. In reality those areas do not appear as light, blurred as in the picture.

Shift left and right, top and bottom and in any direction on the E.

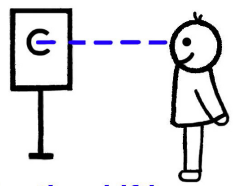
Person is looking at, shifting on the middle part of the B. The middle of the B is in the center of the visual field, is seen darkest black, clearest. The center of the visual field is seen best, clearest.



Shift: ↔ left and right, dot to dot on the o and see oppositional movement.

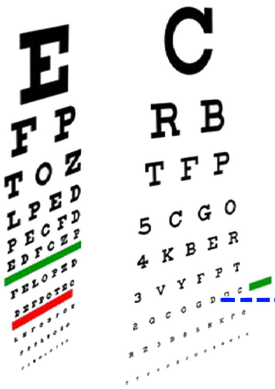
Look at/see clearest - one part (dot) of the C at a time, in the <u>center</u> of the visual field. The part (dot) in the peripheral field is less clear.

All parts of the B that are away from the middle part that the eyes are looking directly at and other letters around the B are in the peripheral field and are seen less clear. They are seen clearest only if the eyes, central field moves onto them.

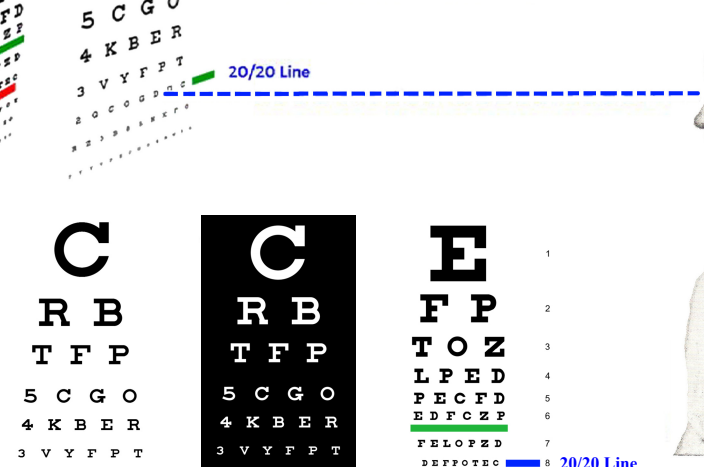


Practice shifting on a familiar object - letters on a test card daily with;
Both eyes together, one eye at a time, both eyes together again.

Shift left and right, top and bottom, middle, diagonally and in any direction on the E and see it move in the opposite direction. Practice on the dots: shift dot to dot and see the E move.



Emily C. Lierman seeing the 20/20 line on the eyechart clear after her eyesight was cured by Ophthalmologist William H. Bates. She became his assistant, working in his Clinic in New York City for many years practicing, teaching patients Natural Eyesight Improvement, The Bates Method. They later married. Her name was changed to Emily A. Bates. She Authored the book; 'Stories From The Clinic'



The fact is that it requires an effort to state what is not true, and this effort always results in a deviation from the normal in the refraction of the eye. So sensitive is the test that if the subject, whether his vision is ordinarily normal or not, pronounces the initials of his name correctly while looking at a blank surface without trying to see, there will be no error of refraction; but if he miscalls one initial, even without any consciousness of effort, and with full knowledge that he is deceiving no one, myopia will be produced.

CURED IN FIFTEEN MINUTES

Patients often ask how long it takes to be cured. The answer is that it takes only as long as it takes to relax. If this can be done in five minutes, the patient is cured in five minutes, no matter how great the degree of his error of refraction, or how long its duration. All persons with errors of refraction are able to relax in a few seconds under certain conditions, but to gain permanent relaxation usually requires considerable time. Some persons, however, are able to get it very quickly. These quick cures are very rare, except in the case of children under twelve; but they do occur, and I believe the time is coming when it will be possible to cure everyone quickly. It is only a question of accumulating more facts and presenting them in such a way that the patient can grasp them quickly,

A very remarkable case of a quick cure was that of a man of fifty-five who had worn glasses for thirty years for distant vision and ten years for reading, and whose distant vision at the time he consulted me was 20/200.

When he looked at the Snellen test card the letters appeared grey to him instead of black. He was told that they were black, and the fact was demonstrated by bringing the card close to him. His attention was also called to the fact that the small letters were just as black as the large ones He was then directed to close and cover his eyes with the palms of his hands, shutting out all the light. When he did this he saw a perfect black, indicating that he had secured perfect relaxation and that the optic nerve and visual centers of the brain were not disturbed. While his eyes were still closed he was asked:

"Do you think that you can remember with your eyes open the perfect black that you now see?"

"Yes," he answered, "I know I can."

When he opened his eyes, however, his memory of the black was imperfect, and though able to read the large letters, he could not read the small ones. A second time he was told to close and cover his eyes, and again he saw a perfect black. When he opened them he was able to retain complete control of his memory, and so was able to read the whole card. This was ten minutes after he entered the office.

Diamond type was now given him to read, but the letters looked grey to him, and he could not distinguish them. Neither could he remember black when he was looking at them, because in order to see them grey he had to strain, and in order to remember black he would have had to relax, and he could not do both at the same time. He was told that the letters were perfectly black, and when he looked away from them he was able to remember them black. When he looked back he still remembered them black, and was able to read them with normal vision at twelve inches. This took five minutes, making the whole time in the office fifteen minutes. The cure was permanent, the patient not only retaining what he had gained, but continuing to improve his sight, by daily reading of fine print and the Snellen test card, till it became almost telescopic.

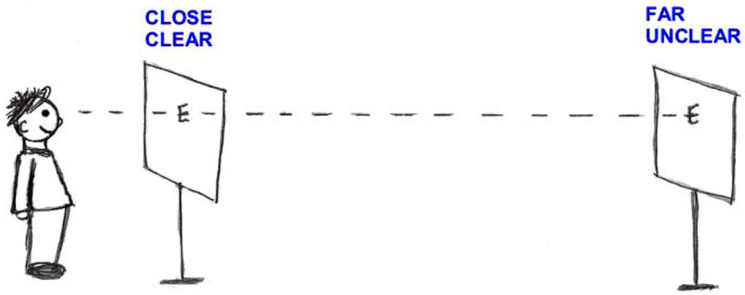
One of the ways the eyes-brain see is by contrast of white-black and other colors, light-dark, shadows, texture... This relaxes the mind and eyes. Relaxation, variety brings clarity. Look at the white page, then at the white spaces between sentences, white area around and inside letters and words. (pg. 144, 326) Then look at the black letters. Look at the black edges of the letters, then at the white page near the letter's edge. The white area closest to the black edge appears brighter, whiter, it 'glows'. Move back and forth on the white glowing areas, the black letters and it's edges. Shift this way along the letters on the eyechart. The white glow on the page near the edge of the bottom of each black letter combines to create a thin bright glowing white line under sentences. The bright white line also appears along the top edge of the sentence. Look at the white line, then the letters, then line, letters... Blink. The glow is a natural illusion. The white relaxes the mind and eyes because it is a blank area; prevents using effort to see, squinting, tension. White also activates the retina, its cones, rods; as light does. Relaxation from the white, contrast and the activation by 'light' continues when looking at the black print. The letters are seen dark black and clear. Look at the print, read the letters, words, sentences easy, effortless. Blink, relax.

Looking back and forth on the white areas and black letters when reading the eyechart keeps the eyes-vision moving. This prevents staring, strain. Movement maintains relaxation and clarity. A entire eyechart is read in seconds. Eye movement *moves* light on the retina, is necessary to activate the cones, rods, nerves... in the retina, send energy, light-image signals to the brain. Note the chart is perfectly clear when glancing at it without thinking to 'test' the sight; when relaxed deeply, or active running around the house, yard and you suddenly look at the chart *without planning to*. It is seen clear because there is no feeling of a test to pass, no pressure to be perfect, no nervousness. Just relaxed, moving vision. Blink and shift. 4 Videos;

http://www.youtube.com/watch?v=sM-EHgC-J6w&feature=channel http://www.youtube.com/watch?v=863yFmc-Ius&feature=channel
http://www.youtube.com/watch?v=mYpsYPPV_hg&feature=channel http://clearеyesight-batesmethod.info/id79.html

EYECHARTS TO TEST AND IMPROVE CLOSE AND DISTANT EYESIGHT

SWITCH AND SHIFT ON LETTERS ON TWO IDENTICAL EYE CHARTS PLACED AT CLOSE AND FAR/ CLEAR AND UNCLEAR DISTANCES.



SHIFT FROM PART TO PART (DOT TO DOT) ON THE E'S

TOP AND BOTTOM | LEFT AND RIGHT | DIAGONALLY CORNER TO CORNER | MIDDLE | SHIFT FROM PART TO PART IN ANY DIRECTION

Videos - http://www.youtube.com/watch?v=863yFmc-Ius

Meaning of 20/20; (for Distant Vision)
+The top number indicates the distance the person is standing from the chart.
+The bottom number indicates the size of the letter, the line the eyes are looking at. A 20/20 letter is 3/8 inch. high.

E < This E is about 3/8 inch. on 100% computer screen.

+The bottom number also indicates the distance that a person with clear vision sees the letter clear.

Example; the 20/20 line on the test chart for distant vision;
+The top number, 20 indicates; the person is standing 20 feet away from the letter on the eyechart.
+The bottom number, 20 indicates the person is looking at the 20/20 line, 3/8 inch. letter and, that; a person with clear 20/20 vision can see the letter clear at 20 feet away.

The eyechart is placed at 20 feet to test distant vision because the eyes do not need to un-converge, un-accommodate any further when looking at about 20 feet and farther into the distance. If the letters are seen clear at 20 feet, they are seen clear at all distances beyond 20 feet.
At farther distances (300+ ft.) usually people move closer (200 to 40, 20 ft.) to see the medium, small letters, bottom 10 line and smaller. There are people with such perfect vision and relaxation that they can see small details at very far distances.

Here's another example; 20/200;

+The top number (20) indicates the person is standing 20 feet away from the eyechart.
+The bottom number (200) indicates the size of the letter, line the person is looking at.
The 200 line letter is the largest letter on the top of the chart. A 20/200 letter is 3½ inches high.
+The bottom number, (200) also indicates that a person with

Distant vision - Big C eyechart with a small 5 line added at bottom.

20 = 20 feet
20 = 3/8 inch letter - 20 line.
Normal, clear vision.

20 = 20 feet
5 = Smallest letter, bottom of chart - 5 line.
Clearer than 20/20.

40 = 40 feet
5 = Smallest letter, bottom of chart - 5 line.
Most clear vision, much clearer than 20/20.
Person sees 5 line at 40 feet away.

CLEAR

20 = 20 feet
200 = Largest letter, top of chart - 200 line.
Most unclear vision for this eyechart.

5 = 5 feet
200 = Largest letter, top of chart.
Vision more unclear.
The person must stand closer to the chart, at 5 feet, to see the 200 line letter clear.

20 = 20 feet
300 = Letter larger than 200 line.
More unclear than 20/200.
Person cannot see the 200 line clear.
A larger, 300 size letter is seen clear.
The 200 and other lines might be seen clear at closer distants to the chart.

UNCLEAR

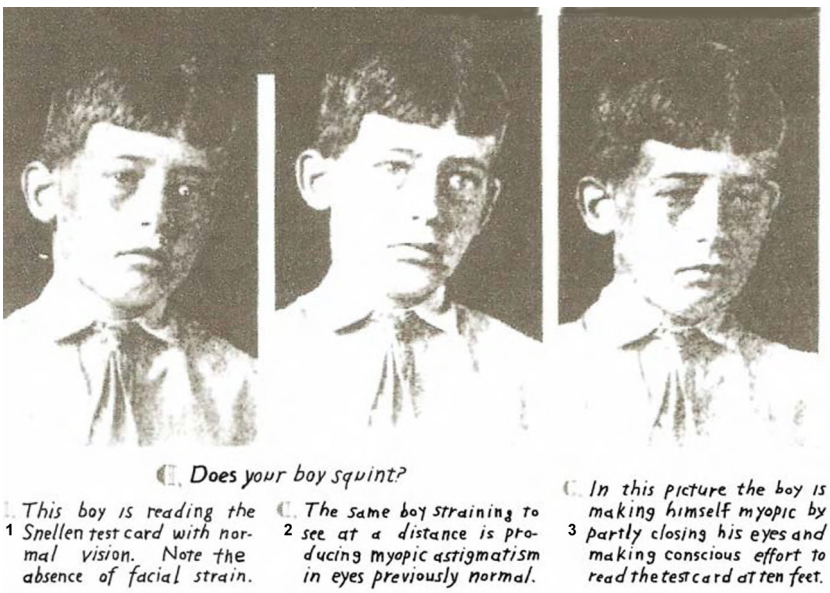
Perfect eyesight; seeing the 20 line, the bottom 10 line and smaller letters clear at 20 feet and farther; 25, 30, 40... ft.

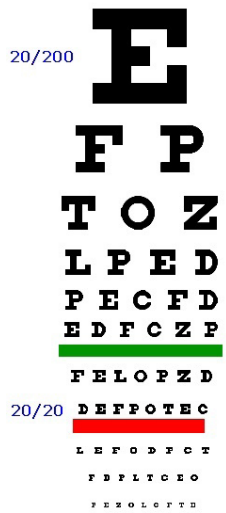
clear 20/20 distant vision can see the letter clear at 20 feet and up to 200 feet away and often farther.
A person with 20/200 distant vision can see the large 20/200 letter at 20 feet but cannot see it clear farther than 20 feet. It is usually also seen clear at distances closer than 20 feet. The person cannot see smaller letters below the 20/200 line clear at 20 feet and farther away.
20/200 vision is the most unclear level of vision on the eyechart, much less clear than 20/20.
Vision can be more unclear; 20/300, 5/200... Many people with 20/200, 300 and more unclear vision have attained 20/20 and clearer vision with practice of the Bates Method.

20/40 vision is clearer than 20/200 but less clear than 20/20. 20/40 is considered legal for driving in most states. 20/40 is close to 20/20 clarity and people can function comfortably with 20/40 vision without wearing eyeglasses. 20/30, 20/25 is clearer than 20/40, its almost 20/20.
Remember; vision fluctuates. Any level of unclear vision has moments of improved and sometimes perfect clarity. We learn to reproduce and maintain the conditions that bring the clear vision.

It's best to avoid wearing glasses. Eyeglasses maintain and increase eye muscle tension and blur. When glasses are avoided; the eyes, eye muscles, mind/brain (visual system) relax, correct natural vision habits are easily applied and clarity of vision improves. Lowering the eyeglass prescription, weaker and weaker is the next best option. See website; 20/40 to 20/50 legal-safe prescription clarity.
Close vision is tested with smaller letters with the eyechart placed at various distances closer than 20 feet. Reading vision is tested at 3 ft. to 6 inches and closer to the eyes with small and fine print. Seeing fine print clear at 5 to 1 to 1/4 inches from the eyes is very clear vision. Healthy for the eyes.

Relax and Shift, Blink when Reading the Eyechart. Use Central-Fixation





Immediate Production of Myopia and Myopic Astigmatism in Eyes Previously Normal by Strain to See at the Distance;

Fig 1 - Boy reading the Snellen test card with normal vision. Note the absence of facial strain.
A boy with normal eyes reading the X line of the Snellen test card at 10 feet.
Notice the expression of the eyes with the focus completely relaxed.

Fig 2 - The same boy trying to see a picture at twenty feet. The effort, manifested by staring, produces compound myopic astigmatism, as revealed by the retinoscope. Simultaneous retinoscopy indicated compound myopic astigmatism. He was unconscious of the fact that his eyes were focused for a near point. Note the manifestation of effort by staring.

Fig 3 - The same boy making himself myopic voluntarily by partly closing the eyelids and making a conscious effort to read the test card at ten feet. Functional myopia produced voluntarily by partly closing the eyelids (squinting) and making an effort to read the Snellen test card at ten feet.

Learn natural ways to see the eyechart clear; listed on the back of the eyechart pages, end of this book.

There are large and small close and distant eyecharts on the last pages of this book and in the PDF E-Books.

Fig. 43

Patient with atrophy of the optic nerve gets flashes of improved vision after palming.

Creating the exact, correct letter size to fit the PDF and paperback book is difficult. Reprinting at larger or smaller setting corrects this. If the chart letters are too small, large; place it in a copier, printer, use the zoom setting until all letters print the correct eyechart size. Correct sizes are listed below. Smaller is better!

The Big C and E charts print out on 3 separate pages, 10 x 8 or 11 x 8½... inches, landscape. Tape them together on cardboard after printing. An exact size Big C chart as shown on the right > can be downloaded from the website.

If the print is too light; darken it to dark black with a black marker.

Chart letters can be reduced to small and fine print for testing, improving close vision and reading vision distances, 5 feet to 20 inches, 10, 6, 5, 3, 1... inches away from the eyes. Or use the small charts.

The charts can be printed from the PDF E-Book with white letters on a black, blue... background. White letters are easy to see and relaxing to the eyes, mind. Color, light activates, is healthy for the eyes, brain, visual system. White is a color, similar to sunlight. The eyes' fovea, it's cones seek light.

The reader can also create small charts as a identical copy of the big C, E charts. Place the identical copy at a clear close distance and look at the identical clear letters to strengthen the memory, imagination of the same letter on the distant chart. If preferred, use a large close and distant chart.

The Big C chart is the eyechart Ophthalmologist Bates refers to in his Better Eyesight Magazine, book. The large big letter E and C charts are for testing distant vision.

Print the chart with correct letter size;

Start with the big letter E (or C) at the top of the chart - 20/200 line;

20/200 - 3 ½ inch. high
20/100 - 1 ¾ inch.
20/70 - 1 ¼ inch.
20/50 - 7/8 inch.
20/40 - 11/16 inch.
20/30 - 1/2 inch.
20/20 - 3/8 inch. ----------
20/15 - 1/4 inch.
20/10 - 3/16 inch.
20/5 - 3/32 inch.
20/4, 3, 2, 1... Letters are smaller. Very clear vision.

All numbers above 20/20 indicate vision less clear than 20/20.

Normal clear vision at 20 feet away.

All numbers below 20/20 indicate clearer than 20/20.

Standing farther away and seeing the letters clear; Example 40/5; standing 40 feet away and seeing the 20/5 - 3/32 inch. letter and smaller letters clear indicates very clear vision, much clearer than 20/20.

Snellen Test Cards

THERE should be a Snellen test card in every family and in every school classroom. When properly used it always improves the sight even when sight is already normal. Children or adults with errors of refraction, if they have never worn glasses, are cured simply by reading every day the smallest letters they can see at a distance of ten, fifteen, or twenty feet.

PAPER ..... 50 CENTS
CARDBOARD (*folding*). 75 CENTS
DELIVERED

Back numbers BETTER EYESIGHT.....$ .30
Bound vols., 1st, 2nd and 3rd years, each.. 4.25
Photographic reduction of the Bible..... 4.00
Ophthalmoscopes, with and without Battery, from ..... 10.00 to 50.00
Retinoscopes 4.00
Burning glasses..... 5.00
Reprints of articles by Dr. Bates in other medical journals: a limited number for sale. Send for list.

For Sale By
Central Fixation Publishing Company
300 Madison Avenue, New York City

Read, See Small Letters Clear on a Familiar Eyechart Daily; Both eyes together, one eye at a time, both eyes together again.

Due to page limit, book size; some pages are combined on one page so the book may contain more pictures, training. A blank page should be placed after eyechart pages in all editions so the chart may be extracted without removing other pages. I decided to place extra eyesight practices, pictures on the back of the eyecharts. Letter size for the charts are smaller than normal in most book editions. Seeing these smaller letters clear indicates better vision than indicated on a standard size chart. Print the charts with a scan/copy machine set to adjust each line of letters to correct size as listed in the directions above. Print the 20/20 line 3/8 inches high or a bit smaller. When letters on that line and smaller ones below are clear at 20+ feet; vision is clearer than 20/20 for distant vision (20 feet and farther). Also test, practice for every distance before 20 ft. Unclear vision can occur at a variety of distances. It can be clear at 100 feet and unclear at 50... feet. Clear at 20 feet, unclear at 5... feet. Improve vision at all distances.

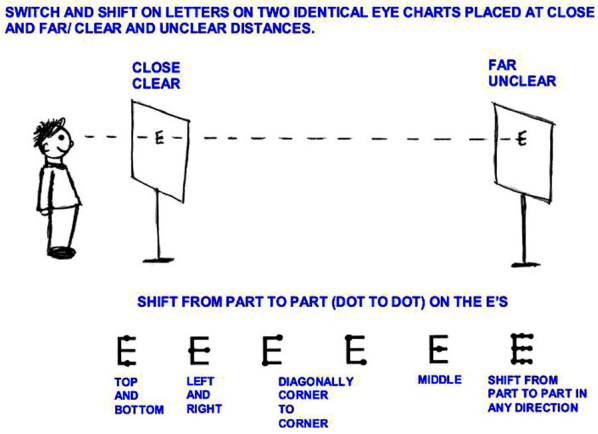
Print the Eyecharts.

Make two identical copies of the chart, place them at close and far distances. Practice Correct Vision Habits: shifting, central-fixation... on the charts one or two times per day.
Practice in the sunlight, sun shining over the shoulder onto the charts.

Shifting, switching on the two identical charts improves the memory, imagination, ability to remember, imagine and see the letters clear, improves the brain's function of storing clear images of objects in the memory. Memorize the letters.

The eyecharts become a familiar object. Familiar objects are relaxing to the mind, eyes and are easy to see clear. Prevents effort, squinting.

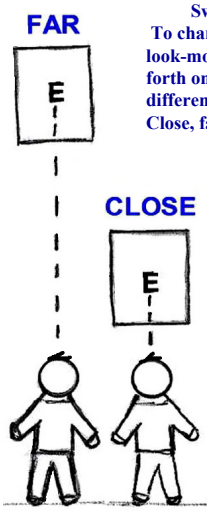
When a letter on the chart is seen clear at a specific distance; all letters, objects at that distance and often all other distances are clear.



Practice Correct Vision Habits #1 to 10 on two identical eyecharts; *(Correct Vision Habits; Page 398)*
One chart is placed at a close distance.
The other chart is placed at a far distance. See picture. ^
Keep one chart at a clear distance, the other chart at a unclear distance.

When looking at a chart, place the chart at eye level, directly in line with the eyes, face. The letter the eyes look at is placed in the center of the visual field; between the left and right eyes, at eye level.

Move the head with the eyes. Relax, allow movement. Avoid tension.
The far chart is placed about 1 foot to the left or right (alternate) so the close chart does not block the view of the far chart.
When looking at a chart, maintain central-fixation (central vision) ;
When looking at the close chart - stand directly in front of it.
When looking at the far chart - move and stand directly in front of it.
See picture on the right. >



Switching;
To change distances, look-move back and forth on objects at different distances.
Close, far, close, far...

Shift on letters on the clear and unclear eyecharts and remember, imagine and see the letters dark black and clear.
Practice with the eyes open, then closed-use the mind-memory. Open again.
Practice with both eyes together, then one eye at a time, then both eyes together again. If vision is less clear in one eye, practice extra time with that eye. Then again a bit with the other eye, then both eyes together again to keep the vision balanced, equal in both eyes.

Keep the letter between the eyes, at eye level 'center of the visual field' when using both eyes together and when using one eye at a time.
Do this without becoming stiff, immobile. Don't 'try' to be perfect. The eyes-vision will move the central field naturally, on its own as it shifts on a letter and from letter to letter. Blink, breathe and relax.

Cover the eye not in use with a eyepatch and keep the eye open under the patch when the eye in use is open.

Example; Person needs distant (far) vision improvement.
Place one chart at a far, unclear distance.
Place the other identical chart at a clear close distance.
Look at the letter **E** at the clear close distance; shift on the letter.
Remember, imagine and see the **E** dark black and perfectly clear.
Do this with the eyes open, then in the imagination with the eyes closed, then with the eyes open again.

Next; switch to the unclear far chart. Look at the identical letter **E**.
Shift on the **E** and continue to remember, imagine the **E** is dark black and clear. See it flash clear.
Practice with the eyes open, closed, open. With practice the far **E** will be seen clear. (continued on next page.)

Place two eyecharts in line with eachother at close and far distances; 5 feet and 20+ feet. Sway left and right 1 to 4 feet in front of the charts. See the close chart move opposite of your movement. The far chart moves in the same direction you move to. The far really moves opposite. But, when swaying; far objects show a smaller opposite movement. This causes the far chart to appear to move with you. The close chart's longer opposite movement increases the far chart's same direction appearance. Far away into infinity; far objects show the smallest opposite movement. The 2 charts also appear to move against eachother in opposite directions when swaying. The brain-eyes-vision use this to determine depth, distance, time, speed, location... It is also used to distinguish individual objects when the vision is very unclear, thus enabling and improving centralizing. Pg. 426.

Switch back to the clear close E.
Repeat; shift on the E, remember, imagine, see it dark black and clear.
Practice with the eyes open, closed, open.
Looking at the clear close E reinforces the clear image of the E in the brain/memory. This helps the brain and eyes work together to produce a clear image of the E when it is seen at the far distance.

Switch back to the E at the far distance.
Shift on it, remember, imagine and see it dark black and clear.
Blink, breathe, relax.

For one eye at a time; start with either eye. But; it helps to start with the clearest vision eye first to get the clearest memory image of the E into the brain.

Practice switching, shifting on the close and far E's with both eyes together, then one eye at a time, then both eyes together again for perfect equally clear 20/20 and clearer vision in the left and right eyes at close and far distances. Example: Both eyes together. Then one eye at a time: start with either eye (or use the clearest first); left, then right, then left, right... If vision is less clear in one eye; practice extra time with that eye. Then; end with both eyes together again. Entire steps; page 409

Allow the eyes, head/face, neck and body to relax, move freely when looking at the letters. Relaxation and movement bring clear vision.
Eye, head/face, neck, body immobility, tension and staring, squinting, straining, trying hard to see the letters clear produces unclear vision.

Practice on other letters. Move upon the chart nice and easy from letter to letter. Blink, shift.
Practice on smaller letters.
Practice at a variety of close, middle, far distances for clear vision at all distances.
Practice on two identical fine print charts with medium, small, fine and microscopic size letters. Place the charts at two different close distances.

Memorize the letters on the chart. Memorizing the letters causes the chart to become a familiar object, something that is easy to see. Familiar objects relax the mind, eyes and activates clear vision. When the brain memorizes the letters, becomes familiar with them, there is no effort to see them, mental strain and eyestrain are avoided, the mind/brain, eye muscles, eyes stay relaxed when viewing the chart and the letters are seen clear *without trying to see.*
This relaxation and clear vision continues when looking at other objects.
When taking a eye test at the eye doctors' office, the patient is often hurried, pressured to see the letters clear on a unfamiliar eyechart. Being hurried can tense and reduce the eyes' movements. This causes temporary mental strain, leads to squinting, staring, effort to see the letters. This causes temporary eye muscle tension, slightly altered eye, cornea shape with incorrect focus of light rays in the eye causing temporary blur that results in a unnecessary prescription for eyeglasses and over-corrected lenses that are too strong and cause increased eye muscle tension, abnormal eye shape, mental strain, increased blur and future prescriptions for stronger eyeglass lenses.
If the patient knew the letters on the chart and was allowed to relax, use Correct Vision Habits 'shifting, central-fixation...' on the letters; the mind, eye muscles, eyes would remain relaxed, the letters on the memorized and unfamiliar eyecharts would be seen clear and the eyeglass prescription would be avoided. A test on a familiar paper chart on the wall, with Dr. Bates' retinoscope detects true eye focus.
Place a familiar eyechart in the home, work, school and shift on the letters occasionally.
Practice all Correct *Relaxed, Natural* Vision Habits on the letters;
Central-fixation; the letter the eyes are looking at is placed in the center of the visual field; between the eyes, at eye level. Look at and see one letter darkest black, clearest at a time in the center of the visual field. The letter the eyes are looking at is in the center of the visual field and is clearest. Other letters on the chart around and away from the letter are in the peripheral field and are less clear.
Avoid staring, squinting, trying hard to see letters clear. Blink, relax and combine shifting with central-fixation; When looking at a letter; shift on it from small part to small part. Move the small exact center of the visual field point to point on a letter. Blink. Let the eyes move. Shift relaxed, easy, continually, restful. Shift letter to letter. The central field-eyes move *on their own* to where you (the brain) decide to look.

Shift on the letters, move along the chart letter to letter. As you move from letter to letter the head moves with the eyes, facing each letter you look at. The vision moves on the letter, head moving with the eyes-visions' shift. The more you relax and move, the clearer the sight becomes. Blink. Don't get stuck on a letter. Move on. You can return to it when relaxation is perfect.
Try this method to bring relaxation, see letters clear; Pick a partly blurry letter on the far chart; the P on the 20/20 line. Close your eyes and imagine an object that begins with a P. Example; Piano. See the piano in the mind. Use the memory, imagination; it's a beautiful semi dark chestnut brown with the natural wood grain, shapes, colors in it. It is polished, shiny and reflective. See mirror like images in it. Look at the black and white parts of the keys, the design of the legs, who might be playing it. See the white paper with black music notes on top of the piano. The window is open, the long sheer white curtains are blowing. See the green grass, flowers, trees outside. Feel the relaxation. Open the eyes and look at the P; it will flash clear if you gained relaxation and easy use of the memory-imagination. Move to a smaller letter below; a D on the 15 line. Imagine, remember a object for the letter; Dog. A cute Golden Retriever puppy. See her in the grass, playfully edging up to you, tail wagging. The sun is out. You sneak her a snack. You become friends. She visits often and hangs out under the pine tree. Open the eyes, see the D Clear. Move to another letter anywhere on the chart. Try a smaller letter. Repeat using imagination.

(The point to point shifting practice imitates the eyes' exact central fields' function-movement. It does not need to be consciously practiced all the time. It occurs *on its own* as the eyes-vision move over an object.)
See Doctor Bates' directions in his articles in the Close Vision chapter in the E-Books and his Better Eyesight Magazine, Dec., 1919; 'The Menace of Large Print' and 'Think Right', Dec., 1921. See pg. 198, 339.

See the **'Illusion of Oppositional Movement'**; the letter appears to move opposite of the direction the eyes move to; a small, quick movement not longer than the size of the letter when shifting from one side of the letter to the other side. 'The Swing.' When shifting on a part of the letter; the swing is smaller; not longer than the shift on the part. See this book, Better Eyesight Magazine; The Long Swing, Rock, Short Swing.

When reading a eyechart;
Don't spend a long time looking at a letter if it's unclear. Avoid staring, squinting, straining, trying hard to see it. Shift on it, then move, shift to a new letter. Shift on that letter.
Blink, breathe abdominally, relax. Trace on-along the black edges of the letters. Pg; 401
Shift from letter to letter on the chart. Normal vision=the entire chart is read clear in a few seconds!
It is ok to stay on a letter if relaxation, eye shifting occurs. Relax, shift point to point with the fovea to see tiny parts. Let the eyes (vision) move on the letter automatically, on their own.
The eyes, head/face, neck and body are relaxed and move freely. Move the head/face and body with the eyes, in the same direction when shifting on a letter and from one letter to another.

Central-Fixation (Centralizing); When moving to a new letter, move the head, body with the eyes and look-face directly at the letter. This improves central-fixation.
The center of the visual field is clearest. The center of the visual field moves with the eyes from letter to letter, placing each letter you look at, one letter at a time, in the center of the eyes' visual field, keeping each letter perfectly clear.
The exact center of the visual field is most clear. Place the part of the letter the eyes look at in the exact center of the visual field. The part you are looking at is *most dark black, most clearest*.
Shift the eyes (visual attention) from small part to small part, also moving the small exact center of the visual field '*fovea*' from tiny part to tiny part (point to point) on each part you look at, seeing one tiny part (point) of the letter **most darkest black, clearest** at a time in the exact center of the visual field.
The part (point) of the letter the central field is on, 'moving upon it-over it' is darkest black, clearest while the central field is on that part. Then; the next part 'point' the central moves over is clearest.
Practice on small and fine print letters. Practice, then don't practice; let the eyes do the point to point shifting on their own. Many of the tiny shifts are saccades, very tiny and microscopic, automatic shifts.

The exact center of the visual field; produced by the fovea centralis in the center of the macula, in the center of the eyes' retina can be seen/measured by looking at a capitol letter E, 3/8" high, 20/20 line of the distant eyechart, from 20 feet away.
When looking directly at the E, the E occupies space in the center of the visual field produced by the macula and fovea. When looking at a small part of the E (Example; a part in the center of the E); that small part is in the exact center of the visual field produced by the fovea. The fovea is always moving.
+Light rays from this part of the E focus on the center of the fovea when looking at this part, placing it in the central field. Look at a even smaller part, a tiny point; that light ray goes to the most exact center of the fovea; the area that produces the most clearest vision, bright color!
+Light rays from other areas of the center of the visual field focus on the macula around the fovea.
+Light rays away from the E in the peripheral field of vision focus on the peripheral field of the retina around/away from the fovea and macula.
The fovea (especially the center of the fovea) produces the clearest vision, much clearer than 20/20.
The outer fovea and macula also produce very clear vision, much clearer than 20/20, but not completely matching the most clear level of clarity produced by the center of the fovea.
The peripheral field of the retina, going outward farther away from the macula, away from the central field produces less clear vision. The far outer peripheral field is the most unclear.
Let the peripheral do it's own thing. It is also functioning with the brain-eyes-vision. The inner peripheral is clear, but the central *where you are looking* is the most clear, with brightest color, detail.

Remember; the eyes-vision move. Avoid locking the central on one part. Keep it moving 'shifting'.
See a letter clear by placing it in the center of the visual field and then; use the exact center of the visual field; place one small part of the letter at a time in the exact center of the visual field and see it darkest black and clearest. Move continually part to part. Floating along nice and easy. Relax.
Avoid staring. Always shift to prevent staring, immobility. Shift 'move' the eyes-visual attention (center of the visual field) from small part to small part on the letter; top to bottom, side to side, corner to corner, middle; shift part to part in any direction on the letter. Blink. Practice the detailed tiny point to tiny point shifting. *This is the true function of the eyes*. Then; don't practice. Let the eyes, vision do all of this automatically, keeping perfect central clarity and optimum peripheral.

Example; shift from dot to dot on the letter E. See picture on page 427. As the eyes-center of the visual field move from part to part (dot to dot); see one small dot at a time darkest black, clearest in the center of the visual field. The dot the central field is moving on is blackest, clearest.
The entire visual field moves with the eyes as the eyes shift from part to part, object to object.

Example;
Looking at the small part (dot) in the middle of the E.
This part is in the center of the visual field and is darkest black and clearest.
All other parts are in the peripheral field and are less clear.
Next; shift from that small part in the middle of the E to a small part (dot) on the top.
The small part on the top is now in the center of the visual field, its light rays are focusing on the fovea and it is seen darkest black and clearest.
The previous part and all other parts of the E are in the peripheral field and are less clear.
Shift to a new small part; that new part is now in the center of the visual field and is darkest black and clearest. Blink. **(Try exact central field 'tiny point' shifting; look at a part of the dot the size of a tiny fine print period.)**
The eyes can shift to a new part each second, fraction of a second. In that short time that a part is in the center of the visual field, it is seen darkest black and clearest. This is central-fixation.

When you look at the part of the object you want to see using central-fixation (the exact center of the visual field); the exact center is very clear, much clearer than 20/20, and the outer center of the visual field is also very clear, clearer than 20/20. The peripheral field which is normally less clear is at it's maximum clarity and function of detecting movement, light...
Seeing clear with central-fixation and shifting improves clarity and function of the entire visual field.

When the mind, body, eyes are relaxed the letters are clear.
Do the rock and long swing in front of the eyechart and do not try to see the letters clear. Just relax, rock left and right and notice the soothing oppositional movement of the chart; When the eyes, head/face, body move left <; the chart appears to move right >. When the eyes, head/face and body move right >; the chart appears to move left <.

ROCK LEFT AND RIGHT IN FRONT OF THE CHART
RELAX, DONT TRY TO SEE THE LETTERS CLEAR

ROCK LEFT **ROCK RIGHT**

Read about the Rock and Long Swing in this book.
(The Rock is also known as the Sway. A shortened version of the Long Swing. Page 399). The eyes, head/face and body move together in the same direction. Relax and rock or swing left and right without looking at the letters. Don't stop to shift on them, don't try to see the letters. Just swing.
Then; stop moving left and right. Keep some movement; shorten the rock to a few inches. Look at the chart and shift on letters. Blink, breathe, relax. They will flash clear.
When swaying left and right in front of a chart that is far away in the distance; the chart appears to move with you. Read more about the opposite and same direction movement of the far chart on page 428.

'The Short Swing'

See the 'Illusion of Oppositional Movement' of the letter when the eyes shift on it;
+Shift from the left side of the letter to the right side > ;
the letter appears to move 'swing' to the left <.
+Shift from the right side of the letter to the left side < ;
the letter appears to move 'swing' to the right >.
Shift up, down, diagonally, in any direction and see the letter appear to move in the opposite direction, 'opposite of the direction that the eyes *central field-where you are looking* move to.'
Practice shifting and seeing oppositional movement on large, medium, small and fine print letters at close, middle and far distances. The movement of the letter is short, less than the size of the letter. It can be equal to the letter's size; to the shift of the eyes-central field across the letter. It is never longer than the letter, shift. If shifting on part of a letter; it is not longer than the shift of the eyes on the part.

If the swing is larger than the letter, larger than the eyes' shift, is stiff or shaky, does not occur; that is caused by eye muscle tension preventing perfect, flowing eye movements, central-fixations. As the mind and eyes, eye muscles relax; the vision improves. Then the eyes' shift and opposite swing are normal. Blink, breathe and relax. Seeing opposite movement of the letter relaxes the mind and eyes, improves the clarity of vision. Practice shifting on the letter and seeing the illusion of oppositional movement with; the eyes open, then, with the eyes closed (using the memory, imagination), then, with the eyes open again.

Shifting on a small letter produces a smaller opposite movement, a small Short Swing. **Shift on this** E
With practice; smaller shifts on small and tiny letters occur with small and tiny opposite movement of the letters. This greatly improves shifting, saccades, central-fixation resulting in very clear vision. E E
The Short Swing, small and tiny shifts, swings produce clearer, more detailed vision than the Long Swing, larger shifts, swings. All shifts, swings activate relaxation, movement and improve the vision.

The Long Swing and Rock are longer movements of the eyes, head, body and produce a longer appearance of oppositional movement 'swing' because the eyes are not shifting on objects. (unless doing a short rock when shifting on a object; then there is a short swing not longer than the shift of the eyes. See pg. 428)

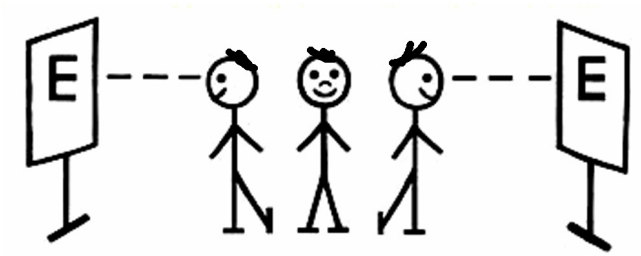
Next; return to the rock or long swing. Don't shift on anything. Just relax and move.
The rock, long swing keeps the mind, body, neck, eyes relaxed, keeps the eyes moving and vision clear.
Stop rocking, swinging left and right every once in a while, then; shift on the letters on the eyechart. Notice they are seen clear now that the mind/eyes are relaxed. There is no effort to see.

Shorten the Rock for a Short Shift and Swing;
Rock left and right 2 feet, then 1 foot, then 6 inches, 4,3,2,1, ½... inch. Rock with a small movement ½ to 1-2... inches left and right and shift on letters on the eyechart in synchronization; left, right, left, right with the movement of the rock. See a small opposite movement swing of the letters.
The rock keeps the eyes, head/face, neck, body relaxed and moving when looking at a letter. This prevents staring, strain and blur. The small shift, swing produces clear vision.

Practice Dr. Bates method of 'Flashing the Letters' ; looking at, shifting on a letter for only a fraction of a second. Then, look away to a different object, shift on that object. Then, return to the letter, shift on it for a fraction of a second, then look away, return, look away...

This prevents effort to see, prevents strain and blur; there is not enough time to 'strain, try' to see an object clear, so relaxation is maintained. Relaxation, no effort to see=clear vision.
The normal eye moves continually, restful, it's fovea shifting easy from part to part, point to point.

Practice the Long Swing with Two Identical Eyecharts on the Left and Right Sides of the Body and 'Flashing' Shifting for a 'Fraction of a Second' on letters on the Eyecharts;



The Long Swing with Two Eyecharts
Identical eyecharts placed on left and right side of the body.
Swing and turn left and right and 'Flash' glance at, shift on a letter on the eyechart for a 'fraction of a second':
Swing, turn left and 'flash' a letter on the left chart. Blink and shift quickly, easy on the letter. Do not stop swinging.
Swing, turn right and flash a letter on the right chart.
Keep swinging left and right, glancing at the letters.
Relax, no effort to see - vision becomes clear.

Place 2 identical eyecharts on the left and right sides of the body.
Swing left and right and flash a letter on the eyechart for a fraction of a second;
+Swing left < ; shift on 'flash' the letter for a fraction of a second on the left chart. Blink.
+Swing right > ; shift on 'flash' the identical letter for a fraction of a second on the right chart. Blink.
Then swing back to the left side, flash the same letter again... Repeat right, left, right, left...
Do this without stopping; keep moving, swinging left and right. Do not stop swinging when looking at the letter. The eyes, head/face and body move-swing and turn left and right together, at the same time, in the same direction. See the Long Swing directions on page 170-171.
The continual movement keeps the eyes, mind and body relaxed, left and right brain hemispheres integrated. The very short time the eyes, head, body are facing the chart prevents strain, staring at the letter. The eyes shift on the letter quick, easy, no attempt to see it clear. Relaxation occurs and vision becomes clear. Practice shifting on identical letters, then on any letters. Shift on small, tiny letters.
'Flashing the letters' - *shifting on a letter for a fraction of a second* produces a 'Flash' of clear vision. The flash of clarity may last only a second. With practice, maintaining relaxation; the flashes occur more often, last longer and soon the vision remains clear. https://www.youtube.com/watch?v=TxRQ2Y-7nCM

See far objects swing opposite; Place an eyechart at 80 to 200 feet. Face it. Shift left and right on the chart; look at the left < side, then the right >, then left <, then right > and see the chart appear to move 'swing by' in the opposite direction. Move the head with the eyes. The head-face, body move in the same direction the eyes move to. Note; if you stop shifting on the chart and the eyes-head-body are just swaying left and right in front of the chart and other objects around it, not stopping to shift on them; the movement of the far chart changes; the chart now appears to move *with the eyes-head-body in the same direction*. Try it; face the far chart and sway left and right or walk sideways a few feet; the chart appears to move with you. If you shift on the chart, or a letter while walking; it's opposite movement will be seen, but the main movement appears to go with the direction you are moving to. (The head moves with the eyes when shifting on a object when walking.) Make it easy to see the far opposite movement; Stop walking. Face the chart, shift on it and keep the head-body movement equal to the eyes' shift on the chart; *not longer, not shorter than the length of the eyes (fovea-central field's) shift upon the chart from one part of the chart to another part.* Example; from the left side to the right side or bottom to top. See it swing opposite. Blink. Shift smaller, on a tiny letter on a far chart and see it move opposite with a tiny opposite swing. Perfect clarity! Practice with the chart at close and far distances; 3ft. to 300+ ft. Seeing the opposite and same direction swings relaxes the mind, eyes and brings clear vision. See it from a moving car's side window; let the different distances pass by. If you want to look at a moving object; turn to face it and shift on it. See pg. 322 for more examples of opposite and same direction movement, their varied size, speed per distance.

Practice palming 'close, cover the eyes', then read, flash the letters on the eyechart. (See examples in this book & the Palming chapter in the E-books.)

+Palm for a while, relax.
+Uncover and open the eyes. Look at a letter on the chart.
+Shift on the letter for only 1-3 seconds or just a fraction of a second. No effort to see clear.
+Then close, cover the eyes and palm again. Think pleasant thoughts. Remember, imagine shifting on the letter and see it dark black and clear in the mind. See the mental picture of the letter show opposite movement as the eyes shift on the letter in the mind.
+Uncover, open the eyes and shift on the letter again, fraction of a second.
+Close the eyes, palm again. Open, shift.
+Repeat palming, then flashing the letter-shifting on the letter for a fraction of a second.

This method keeps the eyes, mind relaxed, prevents effort to see, mental, visual strain and blur. Flashes of clear vision occur. When relaxation of mind, eyes continues, the letters and vision for all objects remain clear.

Shift top and bottom, left and right on the E. (Shift dot to dot). Blink.

Flash a letter -
+Shift on the E for a fraction of a second then +look away from it to another object or close the eyes, palm and remember the E, shift on it in the mind. Or just think any pleasant thoughts with the eyes closed.
+Open, shift on the E fraction of a second,
+Close, repeat...

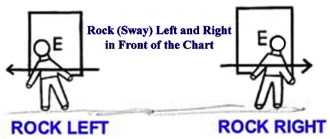
+Use the memory, imagination:
Remember, imagine the E is clear when the eyes are open and when closed. Practice on any objects, at any distance.

Rock (sway) the body left and right in front of the eyechart placed at 5 to 20 feet and see the chart, letters move 'swing' in the opposite direction.

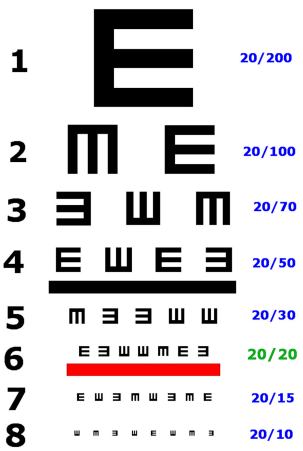
Next; reduce the length of the rock to 2-4 inches, moving left and right while shifting part to part on the letters. The eyes, head, body move in the same direction. Shift on the letter that is in front of the eyes as you rock and move over it. Then go to the next letter that you move in front of, then the next... The eyes 'vision' move freely to another letter, then another, another as you rock. As you move left and right; the eyes shift left, right, up, down, diagonally, in any direction on the letters as you move over them. The head, body moves left, right, up, down, diagonally... with the eyes. These small movements on the letters 'mix in' with the left-right movement of the rock. Blink. Move left and right along an entire line of letters; eyes, head, body moving together as the eyes shift about on the letters. Rock 4-10+ inches moving up and down the chart shifting on the letters. Zig-zag through the chart. Rock up and down on the toes 1-3 inches. Rock on the feet 1-2 inches forward and backward; heels, toes, heels, toes. Movement brings relaxation, clarity. No effort to see. Just relax, move, shift. Blink and breath.

https://www.youtube.com/watch?v=863yFmc-Ius
https://www.youtube.com/watch?v=mYpsYPPV_hg

Click the links for YouTube Videos teaching Natural Vision Improvement with Eyecharts.



Pothooks, Tumbling, Inverted E Eychart



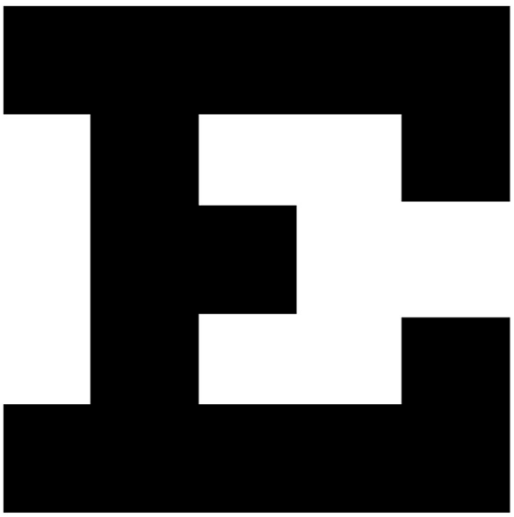
The pothooks eyechart is designed for children, adults that have not yet learned to read the alphabet. The person points their finger in the direction the E is pointing. The chart makes vision improvement easy;

Familiar objects relax the mind, eyes and keep the vision clear. This eyechart is easy to see clear because it is a familiar object; the person knows that every letter on the chart is an E. This makes it relaxing, easy when looking at a unclear small, tiny size E and using the memory, imagination to see the E clear. The person only needs to; shift on the E, guess-imagine which way the E is pointing. When the brain remembers, imagines a clear, dark black letter E and guesses, imagines the E pointing in the correct direction; the brain and eyes relax, the brain directs the eye muscles to move correct and the eyes to shift correct directly on the letter E, perfectly on it's parts. The E is seen clear.

If you guess an incorrect direction; the E remains unclear because; the eyes, brain are trying to shift on, see an incorrect image; trying to move 'shift' the eyes' fovea-central field on areas of the page away from the E's true placement, imagining parts of the E are there when in reality a different part or nothing is there. Confusion, strain in the mind-eyes occurs resulting in blur. (Read the example of using the memory and imagination in the *Do it Yourself-Natural Eyesight Improvement* E-book, Memory and Imagination chapter; Looking at, guessing the #7 on a city bus 10 blocks away.)

Place a familiar eyechart in your home. Notice when you are not thinking about the eyes-vision and you unexpectedly look at the chart; the letters are clear, the eyes (vision) quickly move upon the chart and see the 20/20, 20/15 and bottom 10 lines perfectly clear at 20, 30, 40 feet! The entire chart is read in seconds. No effort to see=no tension=clear vision. Close the eyes and imagine a perfect dark black page. Or a wall, any black object. Relax. Open the eyes. The chart is clear, letters dark black. Repeat; imagine pure white, green, blue, any color. Practice Dr. Bates tiny black period relaxation method. Imagine it; . Shift left and right on it and see it swing opposite. (with eyes open, then closed, then open). Learn how to re-create and keep that relaxed state of mind, body that brings effortless clear eyesight.

20/200 at 200 Feet



20/100

F P

20/70

T O Z

20/60

P D C

20/50

L P E D

20/40

P E C F D

20/30

E D F C Z P

20/25

F E L O P Z D

20/20 Vision at 20 Feet

20/20 D E F P O T E C

20/15

L E F O D P C T

20/13

F D P L T C E O

20/10

P E Z O L C F T D

20/8

E D L T O Z F C P

20/6

L P C F E T O D Z

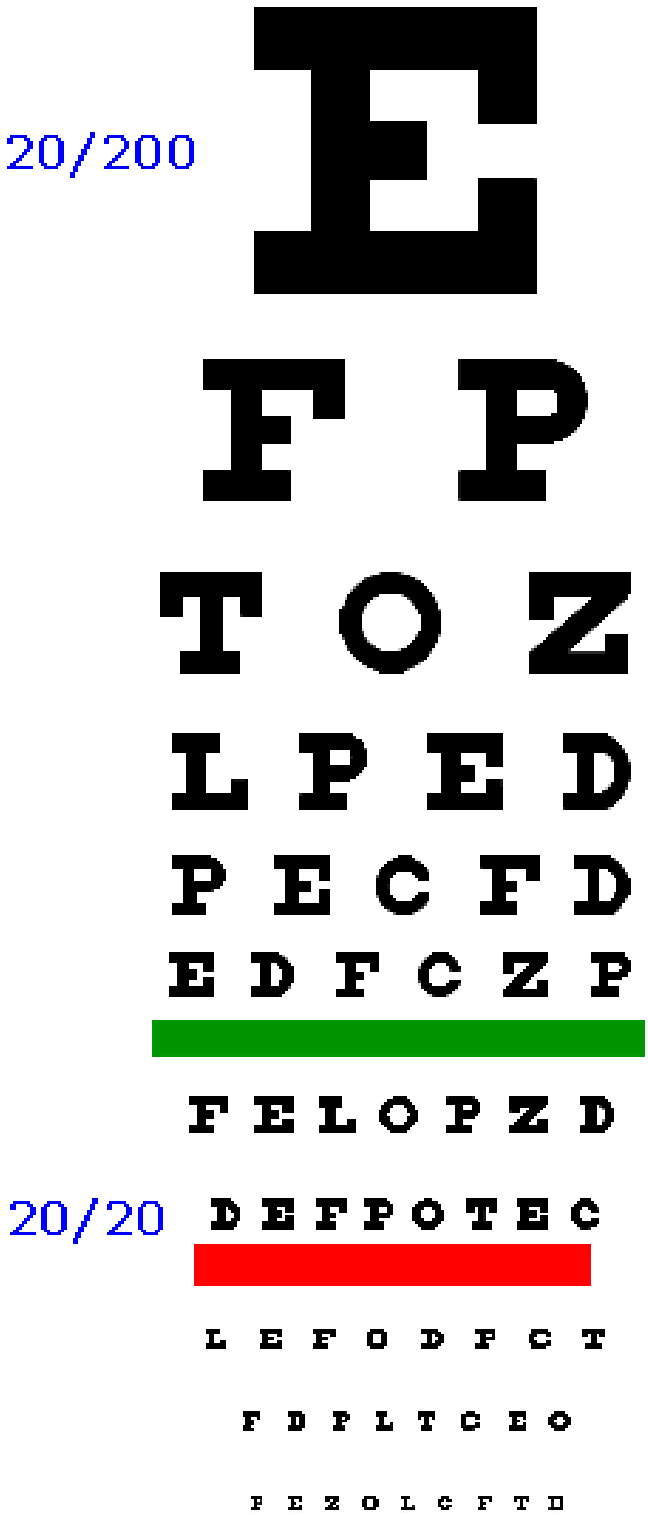
20/5

T F D O P Z L E C

Very Clear Vision, Small Print Clear at 20 Feet

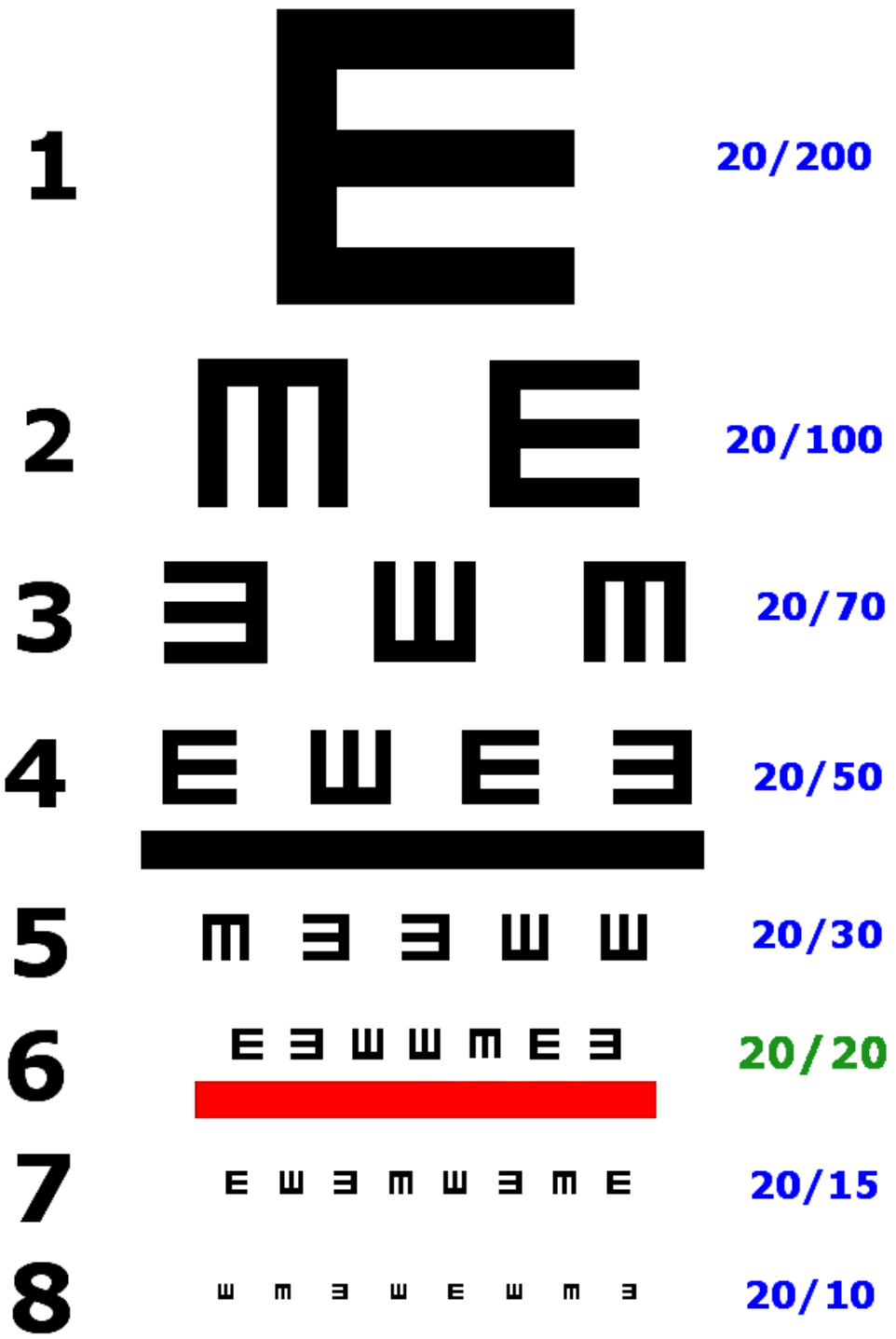
Z C T L O P D F E

Exact standard letter size eyecharts can be printed using the directions in the eyechart chapter and by downloading the Big C chart in 3 pictures from the Eyecharts page on the website; http://cleareyesight-batesmethod.info/id25.html and the E-books page; http://cleareyesight-batesmethod.info/id148.html


20/200
E
F P
T O Z
L P E D
P E C F D
E D F C Z P
F E L O P Z D
20/20
D E F P O T E C
L E F O D P C T
F D P L T C E O
P E Z O L C F T D

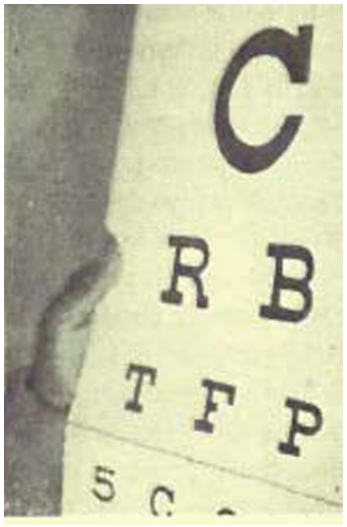
20/200
E
F P
T O Z
L P E D
P E C F D
E D F C Z P
F E L O P Z D
20/20
D E F P O T E C
L E F O D F C T
F D P L T C E O
F E Z O L C F T D

Pothooks, Tumbling, Inverted E Eyechart



Big C Chart From Better Eyesight Magazine

C



R B

T F P

5 C G O

4 K B E R

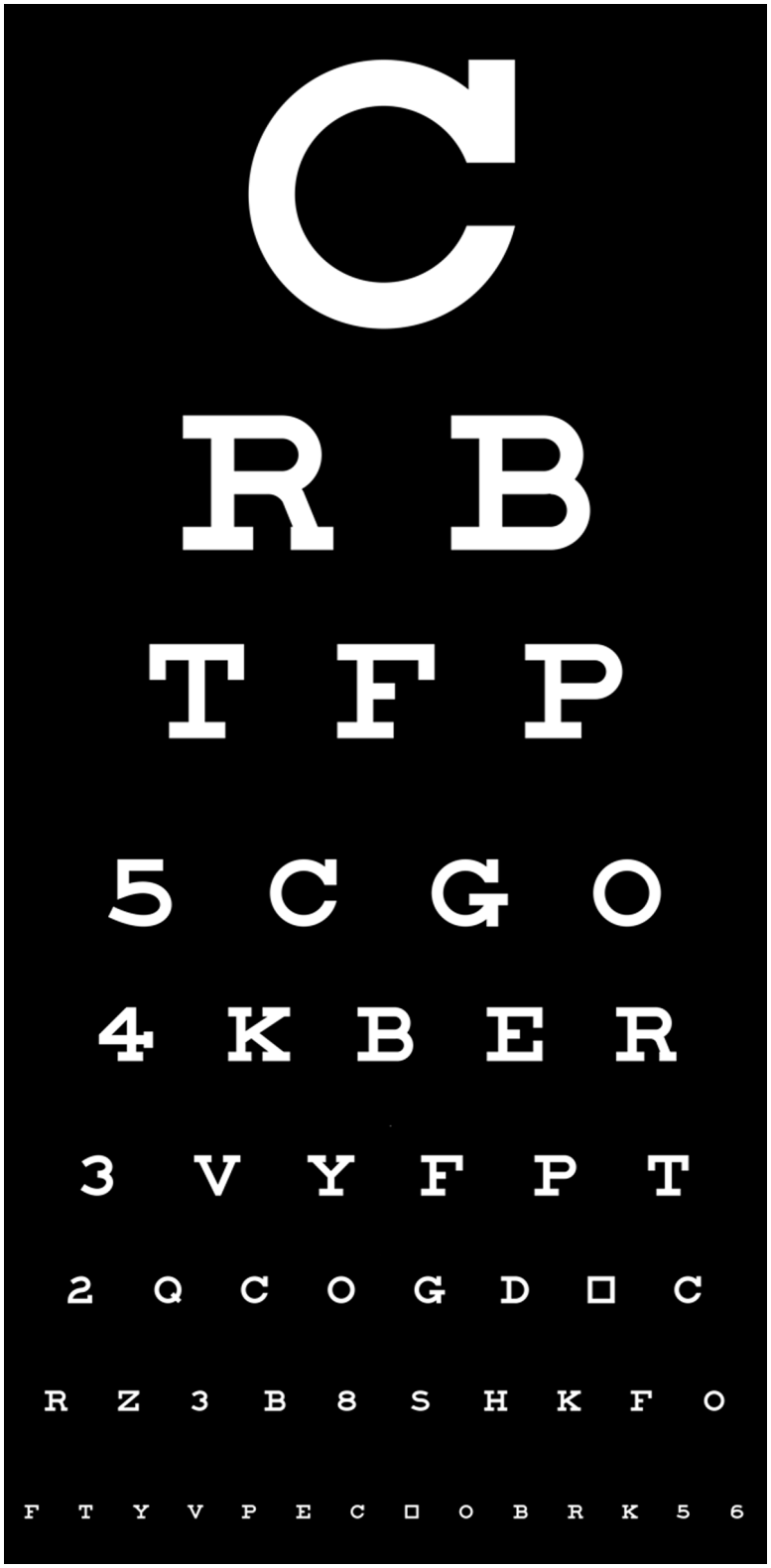
3 V Y F P T

20/20 2 Q C O G D □ C

R Z 3 B 8 S H K F O

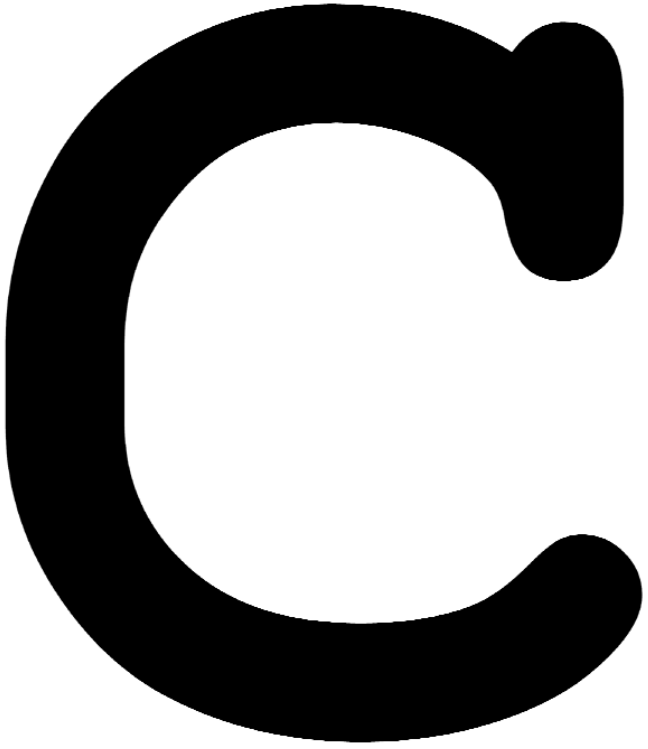
20/10 F T Y V P E C □ O B R K 5 6

White Print Relaxes the Mind and Eyes,
Acts as Light-Activates the Retina



20/20

20/200 Vision at 200 Feet



20/100

R B

20/70

T F P

20/50

5 C G O

20/40

4 K B E R

20/30

3 V Y F P T

20/20

2 Q C O G D □ C

20/15

R Z 3 B 8 S H K F O

20/10

F T Y V P E C □ O B R K 5 6

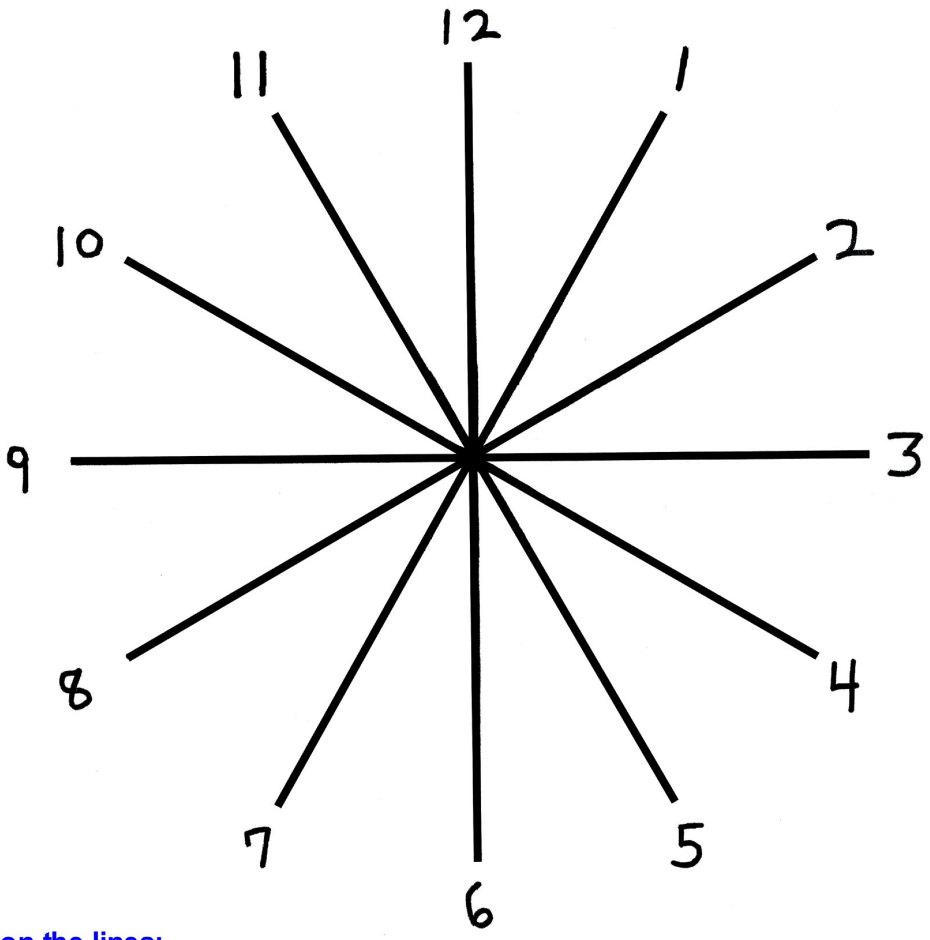
20/5

A B C D E F G H I J K L M N O P Q R S T

CLEAR EYESIGHT IS EASY WITH THE BATES METHOD

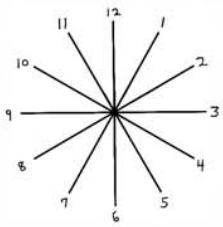
Very Clear Vision, Small Print Clear at 20 Feet

Natural Eyesight Improvement astigmatism removal wheel



Shift on the lines;
Left and right - 9 to 3, 3 to 9
Up and down - 12 to 6, 6 to 12
Diagonally - 8 to 2, 2 to 8, 10 to 4, 4 to 10, 5 to 11, 7 to 1
Shift, trace on the lines in any direction; center to left or right, up, down, diagonally... and back to center.
Move the eyes/center of the visual field along the lines and remember, imagine, see the lines dark black and perfectly clear.
Central fixation; see one small part of a line clearest at a time in the center of the visual field and move the eyes/center of the visual field continually, easy, relaxed along the line from part ot part. Look at the white page, then black lines, then white, black...
Blink. breathe slow, abdominally, relax.

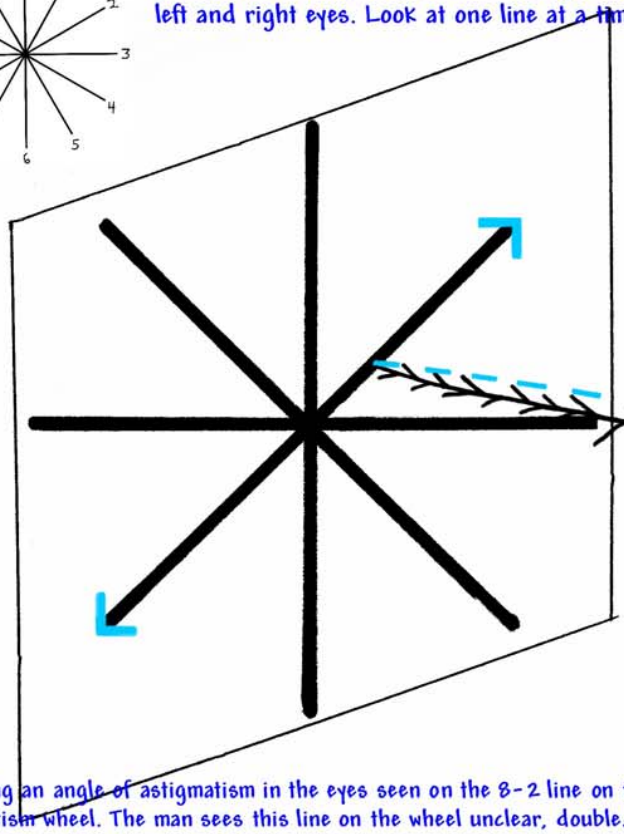
Shift from line to line and part to part on lines. Combine shifting and tracing on lines. Practice with; Both eyes together, then with one eye at a time, then with both eyes together again.

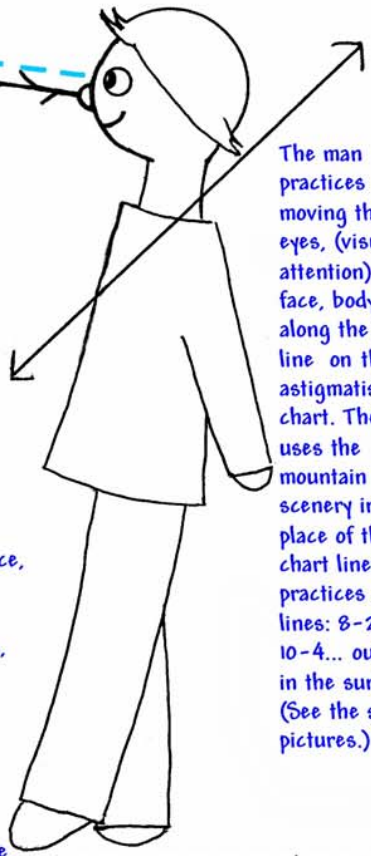


Stand and face the Astigmatism Chart Wheel.
Start with the center of the wheel at eye level between the left and right eyes. Look at one line at a time. Blink, Relax.

8-2 Line

Practice tracing, moving along all angles, lines: 8-2, 9-3, 12-6, 10-4, 7-1, 5-11...





The man practices moving the eyes, (visual attention) head, face, body along the 8-2 line on the astigmatism chart. Then: he uses the mountain scenery in place of the chart lines and practices on all lines: 8-2, 10-4... outside in the sunlight. (See the small pictures.)

Removing an angle of astigmatism in the eyes seen on the 8-2 line on the astigmatism wheel. The man sees this line on the wheel unclear, double.
This is his angle, placement of astigmatism, uneven area in his eyes cornea.
Shift, Trace on/along the line:
Move the eyes, (visual attention, center of the visual field), nosefeather, head/face, body along the 8-2 diagonal astigmatism wheel line.
Trace, move the eyes, visual attention back and forth along the line.
Shift part to part on the line. Blink, Relax. Central Fixation: shift on small parts, tiny details. Imagine the line is dark black, clear, straight, one single clear line.

Practice all these steps with: the eyes open, then in the imagination with the eyes closed, then with the eyes open again.
The eyes (visual attention), end of the nosefeather, head/face and body move together, at the same time, in the same direction along the line.
Blink, breathe abdominally, comfortably deep, slow, easy, relax.

Do not tilt/twist/bend the head/neck to the side. Tilting the head will move the angle of astigmatism to a different line on the chart, preventing removal of the true angle of astigmatism in the eyes. The head is straight and relaxed as it moves along the line with the eyes. The head can turn left and right, up and down, move diagonally... with the eyes, body. (nosefeather is optional.)

Practice on blurry, distorted lines that appear using: both eyes together, one eye at a time, then both eyes together again.

Then practice on all lines, one line at a time, for a perfect round, smooth eye, cornea with clear vision, removal of astigmatism in all areas of the eyes, cornea.

Do this with both eyes together, one eye at a time, both eyes together again.
If vision is less clear for some lines: practice a little more on those lines.

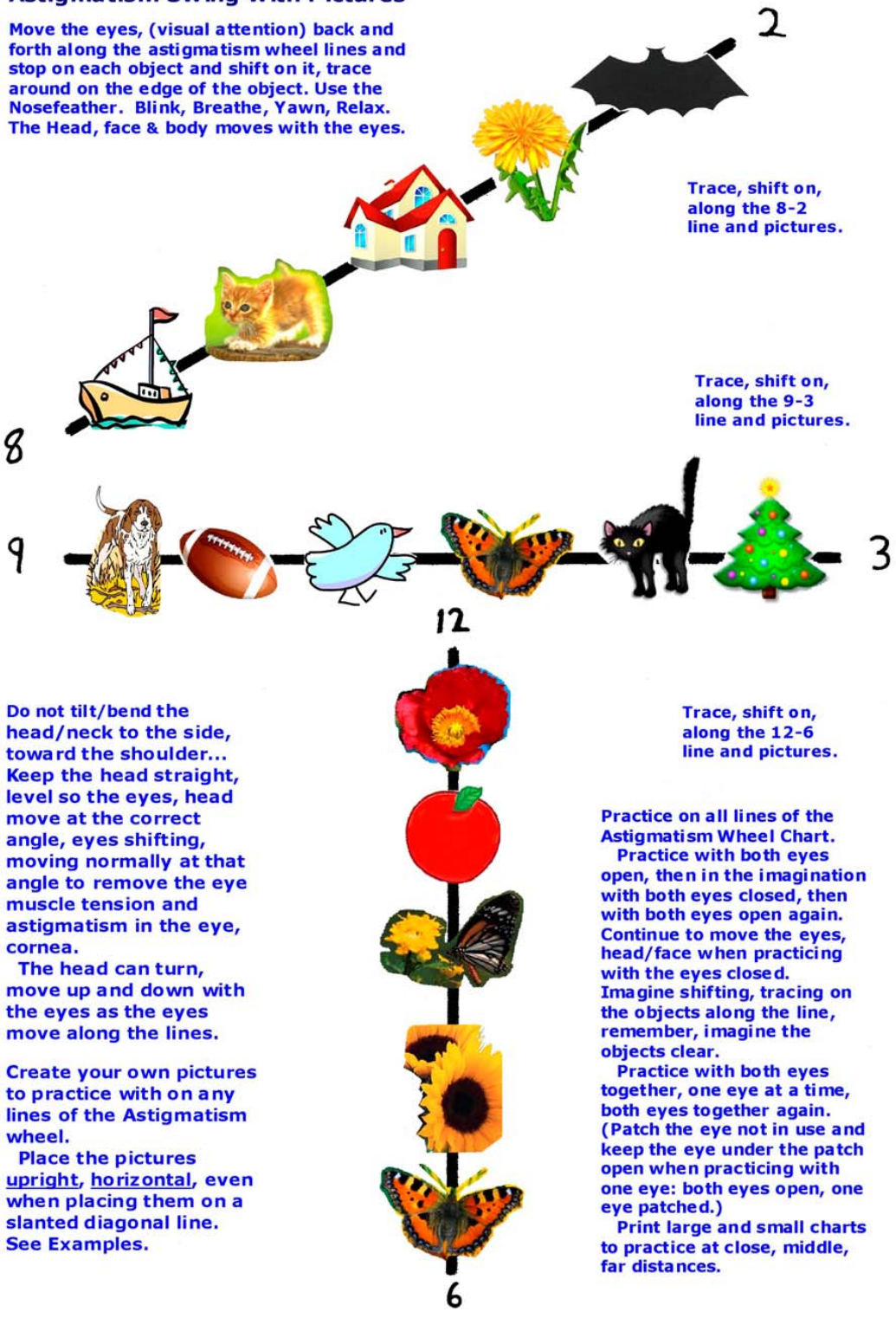
See full instructions on the following page and listen to the audio lesson.
Read 'The Method Explained' at: http://www.iblindness.org/intro/method.html
and practice shifting, central fixation: looking for small details on the blurry lines.

10-4 Line

The man is moving the eyes, (center of the visual field), nosefeather, head/face, body along the 10-4 diagonal astigmatism wheel line using the mountain scenery outside in the sunlight. An Astigmatism Removal 'Swing' similar to the Rock, Sway.

Astigmatism Swing with Pictures

Move the eyes, (visual attention) back and forth along the astigmatism wheel lines and stop on each object and shift on it, trace around on the edge of the object. Use the Nosefeather. Blink, Breathe, Yawn, Relax. The Head, face & body moves with the eyes.



Trace, shift on, along the 8-2 line and pictures.

Trace, shift on, along the 9-3 line and pictures.

Trace, shift on, along the 12-6 line and pictures.

Do not tilt/bend the head/neck to the side, toward the shoulder... Keep the head straight, level so the eyes, head move at the correct angle, eyes shifting, moving normally at that angle to remove the eye muscle tension and astigmatism in the eye, cornea.

The head can turn, move up and down with the eyes as the eyes move along the lines.

Create your own pictures to practice with on any lines of the Astigmatism wheel.

Place the pictures upright, horizontal, even when placing them on a slanted diagonal line. See Examples.

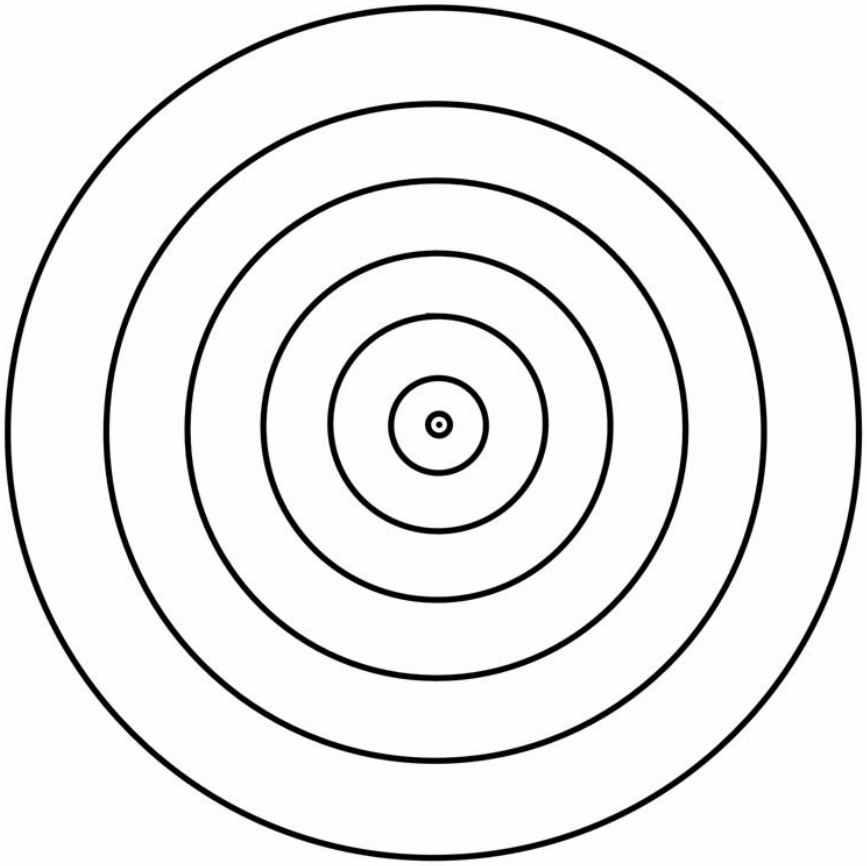
Practice on all lines of the Astigmatism Wheel Chart.

Practice with both eyes open, then in the imagination with both eyes closed, then with both eyes open again. Continue to move the eyes, head/face when practicing with the eyes closed. Imagine shifting, tracing on the objects along the line, remember, imagine the objects clear.

Practice with both eyes together, one eye at a time, both eyes together again. (Patch the eye not in use and keep the eye under the patch open when practicing with one eye: both eyes open, one eye patched.)

Print large and small charts to practice at close, middle, far distances.

Astigmatism removal circles



Trace on the circles counterclockwise and clockwise.
Shift on the circles left and right, top and bottom, diagonally and in any direction.
Remember, imagine and see the circle the eyes are looking at; dark black, clear and perfectly round.
Use central fixation; see one small part a t a time darkest black and clearest in the center of the visual field.
Blink and relax.

Tracing on the circles, spirals counter-clockwise, clockwise, shifting on the spirals, circles and doing the Astigmatism Swings activates, integrates the left and right brain hemispheres, brain functions, corrects eye, eye muscle movement and returns the eyes, cornea to perfect round shape for removal of astigmatism, blur, helps to heal, remove conical cornea and produce clear vision.

The Imaginary Nosefeather can be used to trace on/along the lines, trace counter-clockwise, clockwise on the circles, and to shift point to point on the lines and circles. Remember; point to point actually means part to part: point to point is the true way the eyes function, using the center of the fovea centralis, exact, very clear center of the visual field, seeing small fine details clear. Practice, then let this occur automatically.

The long swing and other activities also remove astigmatism.

It is the subtle, taken-for-granted habits of getting ready for every move that must be revealed and prevented. (Lifting a full suitcase that turns out to be empty, or stepping to an extra stair that does not happen to be at the top of the staircase, we are sometimes made acutely aware of these unconscious habits of readiness.)

The reader of this page is now asked to stand up for a moment. ... Stop! Before even starting to rise from your sofa or chair, did you perhaps begin to foreshorten the muscles at the back of your neck? If so, that constitutes a part of your particular 'set', or involuntary preparation for getting up. It is also an example of the kind of thing that you would gradually learn to prevent during lessons.

With this special form of cooperation from the student, the teacher then 'stands' him, 'sits' him, 'walks' him, encouraging the desired head-neck-torso relationship throughout the process. To the degree to which the student does not intrude any of his old habits, he allows the teacher's manual guidance to give him, over and over again, a new sensory experience of these common acts. And in his new movements, which might be called 'reflex facilitated'[1] rather than active or passive, there occurs a redistribution of postural tone. Finally, sitting, standing, walking *like this*—or engaging in no matter what activity *like this*—begins to 'feel right'. His neck feels free, his head feels as if it is going forward and up, and his torso feels as if it is lengthening and fanning out toward the shoulders. Between lessons, he will continue saying 'no' to his old movements, actively permitting their replacement by the new ones acquired during lessons.

Lessons in the technique form a gradual process with a fascination of its own. The end result is that, in time, the special requisite head-neck-torso pattern is established and continues as the major feature in all of our activities. Nothing static: nothing 'postural'. Head, neck and torso—like every other part of the body—are freely and independently movable at all times. There persists, however, a certain dynamic relationship among them. And it is this relationship, presumably, which allows the greatest

[1]For the important topic of antigravity reflexes, see Appendix III. The anatomical and physiological explanations put forward to account for the new facts of space medicine (for example, that skylab astronauts living without the effects of gravity gain inches in height and lose inches around the waist) are interesting in the present context.

lengthening of the spine as 'the true and primary movement in each and every act'.

There are an overall flexibility and tonic ease of movement, greater freedom in the action of the eyes, less tension in the jaws, more relaxation in the tongue and throat, and deeper breathing because of the effect of the new alignment on the diaphragm. There are also a sense of weightlessness and a diminution of the effort previously thought necessary to move one's limbs. Activity is now more free and flowing—no longer jerky and heavy with strain.

This lighter-than-air effect must not, at all costs—as Alexander insisted—be confused with what is usually meant by 'relaxation'. John Dewey, in a letter, mentioned 'Alexander's point that when people are told to relax, they do so at one locus and tense themselves at another place.' This tendency, Dewey believed, might be tested objectively.

More importantly, however, Alexander was appalled by the customary approach to the problem. To relax, in his meaning of the word, does not mean that you should become a bag of bones. If one observes a cat or dog at rest, one will see what true relaxation is: the dog and cat are completely relaxed, yet they are still capable of making sudden and definite movements. Alexander deplored the lack of muscular tone in students who, in later years, came to him after having undergone the new relaxation training. The purpose of his technique, as he saw it, was not to get rid of tensions, but to reorganize them into a source of energy and satisfaction.

The question of breathing likewise receives unique emphasis in his work. Alexander, from the very start of his career, opposed the schools of 'deep breathing' then in vogue. He was interested, rather, in coaxing an awareness of breathing as it supports movement, and of movement as it reinforces breathing. The possibilities of orchestration between the two, in activity, are practically infinite. 'We never talk about breathing,' Alexander once cryptically informed a pupil, thus expressing his deep concern with it only as manifest in the precise exigencies of doing: it was to be seen only as a function of using oneself properly.

After all, one never has to worry about whether or not breathing is going on. The question is whether it is free or forced.

Download Alexander's books free on GoogleBooks and www.clearеyesight-batesmethod.info

Move to See the Eyechart Letters Clear;

Look at the eyechart. Move the eyes (*vision*) left and right across the lines of letters. Sway left and right sweeping over the letters. Blink. The head-body moves with the eyes. Move through one line at a time.

Repeat. Then; shorten the movement to the size of a letter and shift on it. Move to another letter, then another. Blink. The head-body moves with the eyes. Size of the eyes' shift, head-body movement varies with the letter size. Avoid trying to see clear. Relax, relax, relax. No effort. The letters will flash clear. Think something happy, fun. It activates relaxation, natural automatic eye movement and clear vision.

Return to moving left and right sweeping across the lines of letters. Then; shorten movement to the size of a letter and shift on it. Move to another letter, then another. Blink. Then sweep left and right again. Sweep diagonally, shifting over the letters as is done on the astigmatism chart end of this book.

Next; sweep up & down the chart while moving back and forth on 2 to 3 letters through the middle. Zig-zagging left and right as you go down, up, down, up... the chart. Blink. *Movement* prevents tension, blur.

Dr. Bates & Emily's *Memory-Imagination-Relaxation* Practice to See Letters Clear;

Start with a letter that is seen clear. If none are clear; move close or far and start with a letter seen best.

#1; Look at-shift on the letter. See and imagine it dark black and clear. (if blurry; just imagine it is clear.)

#2; Close the eyes (palm if you like) and remember, imagine the letter dark black and clear. Shift on the letter in the mind. Shifting part to part on the mental image maintains the clear picture in the mind.

When the letter is seen clear in the memory-imagination and relaxation occurs;
#3; Open the eyes and see the letter flash clear. Shift on it for a split second. Then quickly close the eyes to maintain the relaxation and clarity. Remember, imagine the clear letter in the mind. Shift on it using the imagination. (Quickly closing the eyes prevents strain and blur by avoiding effort to see, immobility.)

#4; Open the eyes and look at a smaller letter under the previous letter. See it flash clear. Shift on the letter. Quickly close the eyes and remember-imagine the clear letter. Shift on it using the imagination.

#5; Open the eyes, go to the next smaller letter under the previous letter-line. It flashes clear. Shift on it. Repeat closing the eyes, remember-imagine the letter clear, shift on it, then open the eyes, move to the next smaller letter below, close the eyes again... until you get to the smallest letter on the bottom line.

Practice this across a line of letters; Look at, shift on and see clear the first letter on the < left. Close the eyes, then open and move right > to the last letter on the line. Try smaller lines. Do all the letters on a line, moving right or left, one letter at a time. Notice; when one letter is perfectly clear; all are clear.

Vary the distance, letter color. Use entertaining pictures, or s e n t e n c e s that are *easy to memorize*.

See page 318 and beginning of the book for more practices by Dr. Bates and Emily.

There are a variety of breathing techniques for relaxation & energy, oxygen flow to the head, brain, eyes, body and to improve lung function. Natural teachers prefer abdominal-diaphragm breathing; like a baby naturally breathes. Usually breathing is through the nose. Sometimes nose and mouth. Depends on the level of activity, method-exercise.

See the Free PDF E-books for natural breathing and breathing exercises.

< The Alexander Technique by Frederick Matthias Alexander. Teaches ways to correct movement, posture, cure *neck-head*, back tension and a variety of health problems with natural, safe methods. He cured his throat-voice. Books; 'Man's Supreme Inheritance'. 'The Use Of The Self-Its Conscious Direction in Relation to Diagnosis, Functioning and the Control of Reaction'. Wrote many books, articles, speeches.

Moshe Feldenkrais. Books; 'Awareness Through Movement-Health Exercises for Personal Growth'. 'Body Awareness as Healing Therapy-The Case of Nora'. 'The Potent Self-A Study of Spontaneity & Compulsion'.

Osteopathy (when done by a honest, experienced doctor) is a natural alternative to risky, often dangerous chiropractic. The bones, spine can be aligned using safe physical movements, massage and other natural ways to move the bones.

The original TRUE Osteopathy method and other old authentic, effective natural practices are free in PDF on GoogleBooks.

John E. Sarno, MD; Teaches how the emotions, thoughts, fear can cause pain and how the brain makes it move.

'Dr. B'; Fereydoon Batmanghelidj, M.D. Books, videos; 'You're Not Sick, You're Thirsty! -Water; For Health, for Healing, for Life' and many other books. Natural salt with water... (exact recipe) cures pain, injuries, disease. A secret doctors hide and some religions preserve. The first thing often given in the hospital is a salt and water... solution. The doctors then tell us to avoid salt. Many natural cures are hidden by the drug companies, doctors.

BETTER EYESIGHT

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

June, 1921

By W. H. Bates, M.D.

Imagination - Imagination is closely allied to memory, for we can imagine only as well as we remember, and in the treatment of imperfect sight the two can scarcely be separated. Vision is largely a matter of imagination and memory. And since both imagination and memory are impossible without perfect relaxation, the cultivation of these faculties not only improves the interpretation of the pictures on the retina but improves the pictures themselves. When you imagine that you see a letter on the test card, you actually do see it because it is impossible to relax and imagine the letter perfectly and, at the same time, strain and see it imperfectly. The following method of using the imagination has produced quick results in many cases:

The patient is asked to look at the largest letter on the test card at the near point, and is usually able to observe that a small area, about a square inch, appears blacker than the rest, and that when the part of the letter seen worst is covered, part of the exposed area seems blacker than the remainder. When the part seen worst is again covered, the area at maximum blackness is still further reduced. When the part seen best has been reduced to about the size of a letter on the bottom line, the patient is asked to imagine that such a letter occupies this area and is blacker than the rest of the letter. Then he is asked to look at a letter on the bottom line and imagine that it is blacker than the largest letter. Many are able to do this and at once become able to see the letters on the bottom line.

One part of the letter is blacker because that is the part you are looking directly at; the central field is on that part. The central field produces the best vision and color. The peripheral field has less clarity and color, is most unclear in the far outer peripheral. As you reduce the size of the area you are looking at, covering the areas that are not as black (part seen worst); you are covering up the peripheral area of the object as you move closer and closer to the center of the visual field produced by the center of the retina 'macula-fovea'. The *exact* center has the very best clarity (much clearer than 20/20) and best color, fine detailed vision. Produced by the center of the fovea. It is very small. Prove it; reduce down to looking at 2 tiny black periods very close together and see the one the eyes (fovea-exact central field) are looking directly at; best, clearest and blackest. Shift back and forth on the 2 periods. This is perfect central-fixation, tiny shifting, it produces very clear eyesight. The eyes continue to move even when looking at a very small part; the fovea moves part to part on that very small part. Blink.

Flashing - Since it is effort that spoils the sight, many persons with imperfect sight are able, after a period of rest, to look at an object for a fraction of a second. If the eyes are closed before the habit of strain reasserts itself permanent relaxation is sometimes very quickly obtained. This practice I have called *flashing*, and many persons are helped by it who are unable to improve their sight by other means. The eyes are rested for a few minutes, by closing or palming, and then a letter on the test card, or a letter of diamond type, if the trouble is with near vision, is regarded for a fraction of a second. Then the eyes are immediately closed and the process repeated.

March, 1924 - Illusions of Normal Sight

AN illusion is defined by the dictionary to be something which does not exist.
Illusions are not seen, they are imagined. One cannot have perfect sight without illusions.

CENTRAL FIXATION - When the sight is normal one is always able to demonstrate that things regarded are seen best while those not regarded are always seen worse. With Central Fixation if one recognizes or sees a letter correctly, all other letters are seen worse. With the best vision that can be obtained it can be demonstrated that one cannot see a letter or any other object perfectly without seeing one part best. (Central-Fixation; the part of the object the eyes are looking directly at is in the central field; the macula-fovea's area of the retina. This area contains the most cones 'light receptors' that produce very clear detailed vision and bright color. The clearest vision. That central field moves part to part on the object, seeing one part at a time best-perfectly clear.) No matter how large or how small the letter or object may be, it is impossible to see it perfectly without Central Fixation. Many people believe that when they look at a small letter or a small period that they see it all at once; but, when you notice the facts, one finds that to see or to try to see a letter, a number of letters all perfectly, the vision becomes modified or imperfect. (Because the eyes are not using central-fixation and shifting, are not looking at-moving on one letter, one part of the letter at a time.) Some persons with unusually good vision can read the Snellen Test Card so rapidly that they have the impression that they see all the letters perfectly at the same time. It requires, in some cases, considerable trouble to demonstrate that this is impossible. In some obstinate cases it has required not only some hours but some days to prove that this is a fact. The letters of the Snellen Test Card are equally black. To see one blacker than the others, or a part of a letter blacker than the rest of it, is seeing something which is not so. The large letters and the small letters are printed in the same ink and all are equally black and although one cannot read the letters unless they see them by Central Fixation it is still, nevertheless, an illusion. One should emphasize the fact that it is possible to have illusions or that one cannot see perfectly unless the illusion of Central Fixation can be demonstrated.

SWINGING - When a small letter of the Snellen Test Card can be seen perfectly and continuously it can be demonstrated that the letter is moving from side to side about its own width or less or that it is moving in other directions. To look fixedly at a letter and try to imagine one point of the letter is seen continuously, can be demonstrated to be impossible. One cannot obtain perfect sight by staring or trying to see things or imagine things as stationary. I have never seen this truth stated in any publication. It is just as important an illusion as is CENTRAL FIXATION in order to have perfect sight continuously. It can be demonstrated that all persons with imperfect sight stare, concentrate or try to see letters stationary. The illusion that the letter is moving, when the sight is normal, is brought about by the normal eye to avoid the stare and the strain of seeing things imperfectly. The point of fixation changes continuously, easily.

When one looks to the right of the letter, the letter is to the left of where you are looking. If you look to the left of a letter the letter is to the right of where you are looking. Every time your eyes move to the right, the letter moves to the left. Every time your eyes move to the left the letter moves to the right and by alternately looking from one to the other side of a letter one becomes able to imagine the illusion that the letter is moving from side to side. When reading rapidly one does not have time to demonstrate that each individual letter is moving. Here again the imagination is responsible for the illusion of the swing. The letters do not really move, we only imagine it; and, unless we can imagine a letter moving continuously we are unable to see it with normal sight continuously. This is a truth; it has no exceptions. It is a necessary part of normal vision, and yet it has not, to my knowledge, been published in any book or periodical. People who write works on physiological optics have much to learn. So many of my patients who have been benefited by my methods have asked me: "Why didn't Helmholtz, Donders and all those other authorities publish the truths that you have discovered?" Nearly all ophthalmologists put glasses on people because that is all they know. I can recall the time when that was all I knew. If a patient left the office without a prescription for glasses it was not my fault. Now when persons with imperfect sight, wearing glasses, become able to practice CENTRAL FIXATION and the OPTICAL SWING in the right way, their vision becomes normal without glasses.

HALOS - When the sight is normal and when one regards a letter of the Snellen Card with a white center, the white part of the letter appears whiter than it really is and whiter than the rest of the card. I use the word Halos for this illusion. This is an illusion which can be demonstrated quite readily by covering over the black part of a letter with a screen with an opening slightly smaller than the white part of the letter, which permits the center of the letter to be observed. When this is done the white center of the letter is the same shade of whiteness as the rest of the card. Some people can imagine the illusion when it is described to them. When reading fine print the spaces between the lines appear whiter than the rest of the card, but only when the vision is good. As a general rule when one can imagine these white spaces between the lines are whiter than the rest of the card, Halos, the black appears more perfectly black and the letters can be read with normal vision. Halos are imagined, not seen. Imagination of the illusion of the Halos is a quick cure of myopia and astigmatism, farsight, presbyopia as well as other cases of imperfect sight. (The visual system creates the appearance of halos on the page near the black print, due to black and white contrast...)

All persons who have normal sight are always able to demonstrate the Halos. All persons with imperfect sight are cured, temporarily or permanently, when they become able to imagine the Halos.

REGULATING DEFECTIVE SIGHT BY EDUCATING THE EYE

NO less than 12,374 of 106,392 recent applicants for enlistment in the United States Navy and Marine Corps were refused for defective eyesight. Trouble with vision, in fact, has become a world-wide plague, and until recently it has been the despair of the medical profession. Errors of refraction can be compensated and relieved, of course, by the use of glasses; but glasses do not cure them. Spectacles are poor substitutes for natural sight, and the conditions that they are designed to alleviate are ominous of evil. The near-sighted, far-sighted, or astigmatic eye is disposed to all sorts of ocular disease. So we are assured by Mary Dudderidge, who writes in *The Scientific American* on "New Light Upon Our Eyes." The "new light" is that shed by a New York oculist, who has devised methods of treatment intended to relieve errors of vision without the use of corrective lenses. It is not a little surprizing, writes Miss Dudderidge, to find an eye specialist who has been treating errors of refraction without glasses for thirty years, and whose experiments, it is claimed, invalidate most of the theories on which the present practise of ophthalmology is based. We read in substance:

Dr. William H. Bates, of New York, is already well known as the discoverer of the properties of adrenalin, an extract from the suprarenal gland of the sheep, which is now used all over the world as an astringent and hemostatic; but his remarkable experiments on the eyes of animals and the startling conclusions that he has drawn from them have, as yet, attracted comparatively little attention.

Defects of vision have been found to be associated with deviations from the normal in the shape of the eyeball, which ought to be a perfect sphere; and such deformations are always supposed to be permanent. In near-sight the sphere is elongated so that it can be focused accurately only on near objects. In far-sight the eyeball is too short, and the light rays are focused behind the retina. In astigmatism the eyeball becomes lopsided, the deviation from the normal curvature not having been uniform.

By the manipulation of the exterior muscles of the eyeball, the function of which has long been a matter of dispute, he was able to make the eyes of fishes, rabbits, and other animals near-sighted, far-sighted, or astigmatic at will. He therefore concluded that it was by the abnormal action of these muscles, rather than through the agency of the crystalline lens—as generally believed—that similar conditions were produced in the human eye, a view which was confirmed by observations on the human eye itself.

In a series of experiments not yet concluded, Dr. Bates is attacking the problem from a new angle. Since light reflected from a curved surface must change its focus if there is any change in the curvature of that surface, he is photographing the filament of an electric light reflected from various surfaces of the eyeball. As no photographer could be found to do this work, he had to learn photography himself for the purpose, and it was two years before he was able to get any satisfactory pictures. The testimony of these photographs is that the whole eyeball changes its shape during accommodation, and that the crystalline lens does not.

These accumulated observations have left no doubt in Dr. Bates's mind that the deformations of the eyeball upon which errors of refraction depend are due to an abnormal strain upon the extrinsic muscles of the orb of vision, and that, far from being permanent, they last only so long as the strain continues. The problem of curing errors of refraction, therefore, is to induce the eyes to take it easy, and look at things without effort.

This is accomplished, we are told, by a simple system of eye-education whose fundamental principle is what Dr. Bates calls central fixation. When the eye attempts to see every point in its field of vision it is subjected to a severe strain, which Dr. Bates believes to be at the bottom of most eye troubles. To quote further:

Central fixation is attained by practise and rest, the latter coming first. To rest the eyes, the patient is told to look at something black and then cover his eyes in such a way as to exclude the light and avoid pressure on the eyeballs. If he remembers the black perfectly he will see black. Otherwise he may see all the colors of the rainbow, but usually sees gray. When one does succeed in seeing black the effect is very surprizing. The vision is noticeably improved, tho it may be only for a moment, and letters on the test-card that one was unable to see before stand out clearly. The explanation offered for this phenomenon is that the eyes and brain are relaxed by seeing black, thus enabling the former to function normally.

The familiar Snellen eye-chart, used by all oculists to test the eyes of their patients, is used as a basis for the practise of central fixation, the patient being directed to try to see one part of a letter better than another. The relief which this simple expedient gives to tired eyes is astonishing, and the smaller the letter selected for the purpose the greater it is.

By means of this simple system of eye-education Dr. Bates maintains that the organs of vision can be kept always in a normal condition. The savage presumably got this education from his daily life. He was obliged, as a condition of continued existence, to focus his eyes for accurate vision at all distances. If he didn't he was eliminated. We who are protected from all the dangers from which our savage forebears could protect themselves only by their good eyesight, and whose eyes are limited for a great part of the time to a narrow range of vision, quite naturally lose this power. Under similar conditions wild animals lose it also, becoming myopic in captivity, altho they neither read nor write nor sew nor set type. The remedy is not to close our schools and stop our printing-presses and return to a primitive condition in which there was no astigmatism or short-sight, but to practise the art of seeing perfectly for a few minutes every day.

Stories from the Clinic

No. 61: Two Blind Girls

By EMILY C. LIERMAN

ROSALIE

ONE day a doctor asked me if I would help two blind girls that he knew. I said I would be glad to see them, and help them if I could. One was Eleanor, aged sixteen, and the other, Rosalie, aged seventeen.

Dr. Bates examined their eyes with the retinoscope, and this is what he found. Eleanor had myopia in the right eye and atrophy of the optic nerve in the left eye. This is very seldom or never cured. There was a good deal of inflammation inside of both eyes.

Rosalie had retinitis pigmentosa in both eyes, and could not count fingers in an ordinary light. This is also a very serious defect. In a very strong light she could at times count fingers if held close to her eyes. Rosalie would cure anyone of the blues because she carried a smile that was continuous. She had black curly hair and olive skin. I held a conversation with her for a few minutes purposely in order to get acquainted, and also to watch her eyes while she was talking. The first thing that I noticed was that she stared and kept both eyes open all the while she was talking. I did not see her blink at all. She had a habit of talking rapidly, and I noticed that she moved her eyes from side to side about at the same rate that she spoke. This is called nystagmus. I held the Pot Hooks card with the letter E of different sizes, pointing in various directions, close to her eyes, and she said I was holding something white before her.

I asked, "Do you see anything else on the card?"

"No," she answered.

Then I placed the palms of her hands over her closed eyelids and told her that this was palming. I told her that it was necessary to remember agreeable things, and she said she could easily remember her music. I could well believe that, because she already had a good reputation as a pianist. She had won the district bronze medal, the highest reward she could obtain in her school. After she had palmed awhile, ten minutes, I held the test card close to her eyes and asked her what she saw. She said the white card was covered with black spots. Quickly I told her to palm again for a short time. After about five minutes I told her to look at the card again, and this time she recognized the large E of the 200 line. We all rejoiced, because the rapid movement of her eyes from side to side had stopped temporarily.

Then I placed the card on my desk about a foot away from her, and told her to palm again. When she opened her eyes later she saw the 100 line letters.

The next time she came I placed her two feet away from the card. After palming a short time she read the 70 line letters. She palmed again, and this time her vision improved to 2/50.

The chaperon for the two girls did not realize that it was possible for Rosalie to read the alphabet or to read figures. She taught Rosalie at my suggestion. Her vision improved after six visits to 1/40 for the Pot Hooks, the letter and figure cards. The nystagmus had disappeared permanently. I am sorry that she was unable to visit me until she was cured.

ELEANOR

Eleanor's vision with each eye was 3/100. Her vision was improved by palming and by the long swing. She could make out figures much easier than letters, so I placed the figure test card at five feet from her eyes. While she was moving her body from left to right, she was told to glance at the figure I was pointing at. She was told not to look at the figure longer than a second, otherwise she would be tempted to stare, and her vision would be lowered. She practiced this for a few minutes and her vision with both eyes improved to 5/50. Her left eye, which had atrophy, was greatly relieved by the sun treatment.

Every time she came for treatment, which was once a week usually, her vision improved for another line of the test card. Changing cards helped to improve her vision also. After the regular C card was used, we tried the Pot Hooks card. Eleanor never had anything to say, but did just as she was told. When her vision improved and she became able to read small letters and figures, she would smile and become very much excited. In one week's time her vision improved to 6/20 with both eyes. Then I gave her small type, called diamond type, and asked her to hold it six inches from her eyes. She could see black spots on the little card, she said, but nothing more. I gave her the sun treatment for a few seconds, and right away she became able to read the fine print.

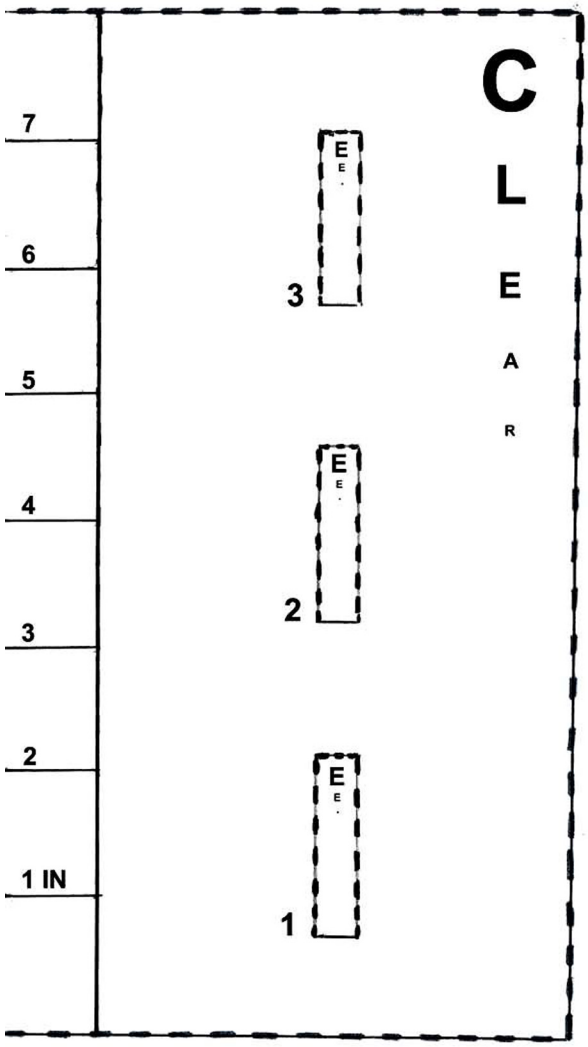
Later we used a black card with white letters, which Eleanor liked very much. I placed it ten feet away from her and I noticed that she turned her head over to one side in order to read the letters. The distance of only one foot caused her to strain while trying to read the strange card. I directed her to swing and blink as she flashed the white letters I was pointing at. In less than a half hour she read the letters one line after another with her head perfectly straight. She was given the sun treatment about six times in one hour, and was encouraged to read the card after each treatment, and before she left me her vision had improved to 6/20.

I did not see her again for a few weeks, and I feared that she would not get along so well by herself. When I saw her again she surprised me by reading all the different cards she had practiced with and she was able to keep her head perfectly straight. Her vision had improved to 6/10. Eleanor plays the violin and sings. Always when I guided her in reading the card with her head straight, I reminded her of her violin and how well she could play something that she knew. This always helped to improve her vision.

Eleanor and Rosalie left the city for a time, and I did not see them again.

Correct, Relaxed, Natural Vision Habits Card

NATURAL EYESIGHT IMPROVEMENT CORRECT VISION HABITS CARD



SWITCH BACK AND FORTH, CLOSE, MIDDLE, FAR ON THE THREE E'S PLACED AT THREE DIFFERENT CLOSE DISTANCES FOR CLEAR CLOSE EYESIGHT.

PRACTICE THE 8 CORRECT VISION HABITS ON THIS CARD WITHOUT EYEGLASSES.

PRACTICE CORRECT VISION HABITS #1 TO 8

1 - RELAXATION

2 - BLINK

3 - BREATHE RELAXED,
DIAPHRAGMATIC/ABDOMINAL

4 - SHIFTING - SHIFT ON THE LETTER E; SHIFT LEFT AND RIGHT, TOP AND BOTTOM, DIAGONALLY, TO THE MIDDLE AND TO ANY PART IN ANY DIRECTION.

5 - CENTRAL FIXATION - SEE THE CENTER OF THE VISUAL FIELD CLEAREST. PLACE THE PART OF THE E THE EYES LOOK AT IN THE CENTER OF THE VISUAL FIELD.
SEE ONE SMALL PART OF THE E CLEAREST AT A TIME IN THE CENTER OF THE VISUAL FIELD. SHIFT THE EYES/VISUAL ATTENTION FROM SMALL PART TO SMALL PART, RELAXED, SLOW, EASY, CONTINUALLY. THE CENTER OF THE VISUAL FIELD MOVES WITH THE EYES KEEPING EACH PART PERFECTLY CLEAR.

6 - MOVEMENT - MOVE THE HEAD/FACE AND BODY IN SYNCHRONIZATION WITH THE EYES, AT THE SAME TIME, IN THE SAME DIRECTION THE EYES SHIFT/MOVE TO.
THE EYES, HEAD/FACE, NECK AND BODY ARE RELAXED AND MOVE FREELY.
SEE THE ILLUSION OF OPPOSITIONAL MOVEMENT; THE E APPEARS TO MOVE IN THE OPPOSITE DIRECTION THE EYES SHIFT/MOVE TO.
SHIFT RIGHT - THE E MOVES LEFT
SHIFT LEFT - THE E MOVES RIGHT.
SHIFT UP - THE E MOVES DOWN.
SHIFT DOWN - THE E MOVES UP.

7 - MEMORY AND IMAGINATION - SHIFT ON A LETTER E AND REMEMBER, IMAGINE AND SEE THE E DARK BLACK AND CLEAR.
DO THIS WITH THE EYES OPEN, THEN CLOSED, THEN OPEN.
REMEMBER, IMAGINE AND SEE THE WHITE GLOW ON THE WHITE PAPER SURROUNDING/AROUND THE E..
PRACTICE PALMING AND REMEMBER, IMAGINE, THINK POSITIVE, PLEASANT THOUGHTS AND SEE OBJECTS IN THE IMAGINATION PERFECTLY CLEAR, IN COLOR, MOTION. IMAGINE USING CORRECT VISION HABITS; SHIFTING ON THE CLEAR OBJECTS IN THE MIND.

8 - SWITCHING - SWITCH BACK AND FORTH; CLOSE, MIDDLE, FAR ON THE 3 E'S #1,2,3 TO IMPROVE CLARITY OF EYESIGHT AT 3 DIFFERENT CLOSE DISTANCES.
SHIFT ON EACH E THE EYES LOOK AT, ONE E AT A TIME.

PRACTICE SWITCHING AND SHIFTING ON THE 3 E'S WITH ONE EYE AT A TIME;
BOTH EYES TOGETHER, THEN ONE EYE AT A TIME -- ONLY LEFT, THEN ONLY RIGHT,
THEN PRACTICE WITH BOTH EYES TOGETHER AGAIN.
IF EYESIGHT IS LESS CLEAR IN ONE EYE, PRACTICE A LITTLE LONGER WITH THAT EYE.
PLACE A EYE PATCH OVER THE EYE NOT IN USE AND KEEP BOTH EYES OPEN.

TRACE THE E'S WITH THE NOSEFEATHER

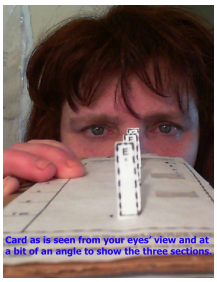
PRACTICE CORRECT VISION HABITS 1 TO 8 ON SMALL AND FINE PRINT LETTERS.
SHIFT ON THE SMALL DOT BELOW THE E ON EACH POPUP SECTION.

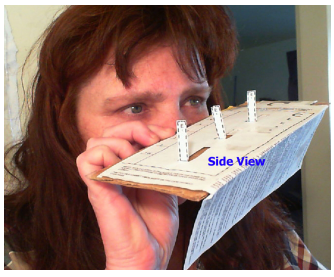
IMPROVE THE CLARITY OF DISTANT EYESIGHT BY SWITCHING BACK AND FORTH CLOSE, FAR, CLOSE, FAR... ON ONE POPUP SECTION AND A DISTANT OBJECT; HOUSE, TREE IN THE DISTANCE, IN LINE WITH THE SECTION.

AVOID INCORRECT VISION HABITS; SQUINTING, STARING, TRYING HARD TO SEE CLEAR.
BLINK AND SHIFT TO SEE A LETTER CLEAR.
LOOK AT SOMETHING ELSE, THEN RETURN TO THE LETTER.

PRACTICE WITH THIS CARD OUTSIDE IN THE SUNLIGHT. OBTAIN FULL SPECTRUM SUNLIGHT DAILY.
READ THE FINE PRINT ON THE BACK OF THIS CARD IN THE SUNLIGHT, SUN SHINING OVER THE SHOULDER, ONTO THE CARD.

PRACTICE CORRECT VISION HABITS ON ANY OBJECT, AT ANY DISTANCE; CLOSE, MIDDLE, FAR.
WITH PRACTICE CORRECT VISION HABITS BECOME AUTOMATIC, OCCUR ON THEIR OWN, ALL THE TIME, RESULTING IN CLEAR EYESIGHT.





Presbyopia Cure - For Clear Close Reading Vision.

Maintains a healthy lens, lens movement and the eyes' convergence, divergence. See directions on page 196.

Practice switching, shifting on the 3 pop-up sections. Place them in a straight line, between the left and right eyes, the 3 E's at eye level, in the central field. Switch back and forth on the 3 E's. Shift on one E at a time. Then on smaller E's. Then the . Use this card mainly with *Plain-Basic Switching Eight Steps* on page 409. The card is not used for Secret Switching #1 and 2, but parts of Secret Switching #1 and 2 can be used with it. Study the 3 switching methods on pg. 404 to 414 to learn exactly what can and cannot be used on the card.

Shifting as a automatic relaxed habit, Switching, Reading Fine and Microscopic Print, use of the Correct Vision Habits Card is all I needed for 41 years (1974 to 2015+) to keep close and far eyesight 20/20 and clearer. Video; https://www.youtube.com/watch?v=knHMjB7T39A

This book in the Original 1920 Antique Print is FREE in the 20 PDF E-Books. A must have for the Collector, True Bates Method Teacher. The PDF E-Books contain more pages, practices, pictures, other doctors, teachers' training, videos... Download the pdf from GoogleBooks or the website; www.cleareyesight-batesmethod.info
Read on Kindle or computer. Best for the eyesight is to print them and read in the sunlight.

GoogleBooks; https://books.google.com/books?id=MilnrDgQiwgC&lpg=PP1&dq=perfect%20sight%20without%20glasses&pg=PP1#v=onepage&q=perfect%20sight%20without%20glasses&f=false

Website; http://cleareyesight-batesmethod.info/id148.html

Paperback. (Free in some libraries.); http://www.amazon.com/Perfect-Sight-Without-Glasses-Improvement/dp/1484061748/ref=sr_1_3?s=books&ie=UTF8&qid=1440844935&sr=1-3&keywords=eyesight%2C+vision%2C+see%2C+natural

Notice; People have been stealing my books, website content and creating Kindles, Paperbacks. We stopped this with our lawyer's help. Now they are creating their own eyesight books, but they do not study the method well; they teach wrong, place incorrect and harmful advice in their books, quickly throwing together books on Amazon solely to make money.

They place my and other true teachers' website addresses in their books in a attempt to fool the public; make the public think they own the websites. (I, Clark Night, *Mary Iva Oliver* am NOT affiliated with these corrupt authors. I did not give them permission to link to my websites.) These false teachers write the same book over and over under multiple titles, names. They are giving the Bates Method of Natural Eyesight Improvement a bad name, giving the public the wrong impression of the method. My website Directions... PDF lists the unnatural methods/false teachers to avoid. Choose a teacher, author carefully!

See my reviews listing the true, best teachers-authors and the phony teachers-authors to avoid; http://www.amazon.com/gp/pdp/profile/A9ARVDAUZEHDM/ref=cm_cr_pr_pdp?ie=UTF8

Amazon Author page; http://www.amazon.com/William-H.-Bates/e/B004H9DOBC
http://www.amazon.com/Clark-Night/e/B004HU1MNS/ref=dp_byline_cont_book_2 Also in the UK, AU, Mexico...

www.cleareyesight-batesmethod.info, www.cleareyesight.info and the Better Eyesight Magazine website and GuestPage belong to Clark Night, preserved for Ophthalmologist William H. Bates. Free TRUE Natural Eyesight training.

Dr. Bates' Better Eyesight Magazine website; http://cleareyesight-batesmethod.infonaturalvisionimprovementoriginalandmodernbatesmethod/default.htm

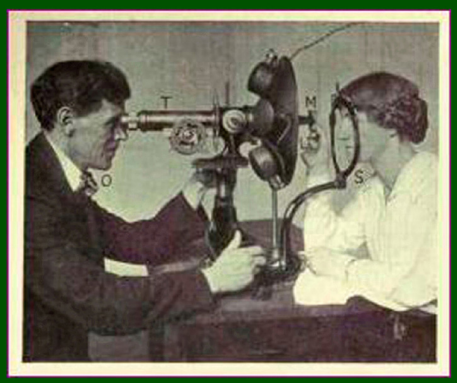
GuestPage - More free books; http://naturaleyesightimprovement-batesmethod.com/GuestPage/index.php

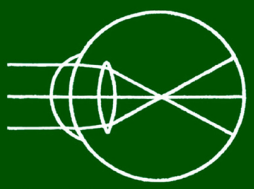
Thank You for buying a Kindle TextBook.

Clark Night (Mary Iva Oliver)

PERFECT SIGHT WITHOUT GLASSES

Ophthalmologist
William H. Bates





Normal relaxed eye with correct focus of light rays on the retina. Eyesight is clear at all distances.

The Cure Of Imperfect Sight By Treatment Without Glasses

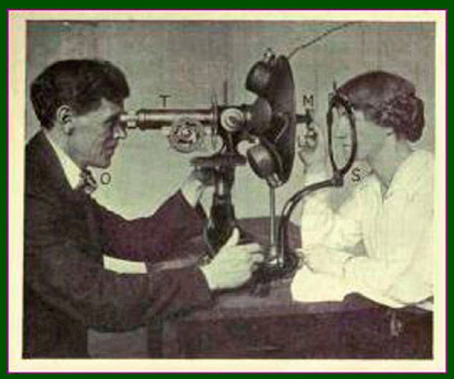
Dr. Bates Original, First Book
with his Better Eyesight Magazine

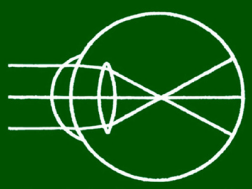
Natural Vision Improvement

Black & White Edition

PERFECT SIGHT WITHOUT GLASSES

Ophthalmologist
William H. Bates





Normal relaxed eye with correct focus of light rays on the retina. Eyesight is clear at all distances.

The Cure Of Imperfect Sight By Treatment Without Glasses

Dr. Bates Original, First Book
with his Better Eyesight Magazine

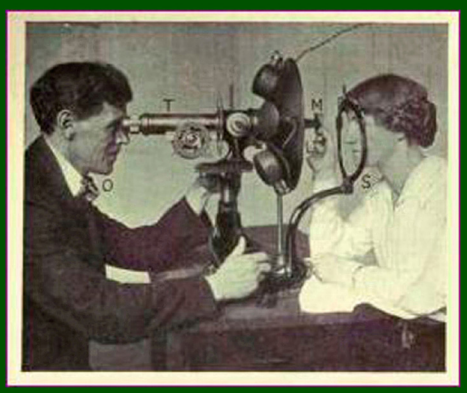
Natural Vision Improvement

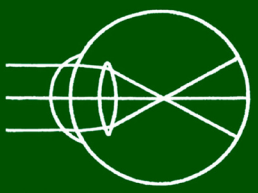
Black & White Edition - Traveler's Size - Small Print

Includes Fine Print Method for Clear Close, Reading Vision

PERFECT SIGHT WITHOUT GLASSES

Ophthalmologist
William H. Bates





Normal relaxed eye with correct focus of light rays on the retina. Eyesight is clear at all distances.

The Cure Of Imperfect Sight By Treatment Without Glasses

Dr. Bates Original, First Book
with his Better Eyesight Magazine

Natural Vision Improvement

Color USA Print Edition

PERFECT SIGHT WITHOUT GLASSES

BATES

Ophthalmologist
William H. Bates

The Bates Method

Natural Vision Improvement

Taught by Dr. William Horatio Bates.
The Ophthalmologist that
Discovered the True Function
of the Eyes, Vision. The Cause and Cure
of Myopia, Farsight, Presbyopia...

See Clear Naturally Without
Eyeglasses, Contact Lenses, Eye Surgery!

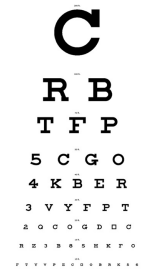
Includes 132 Additional Treatments
From Dr. Bates' Original, Antique
Better Eyesight Magazine - 1919 to1930

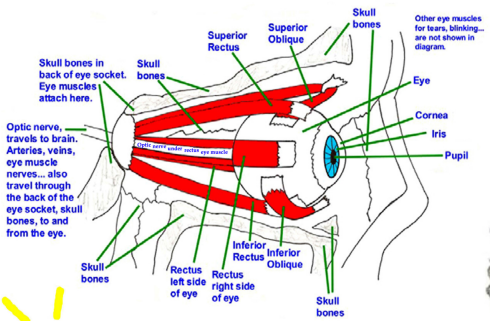
Color Edition

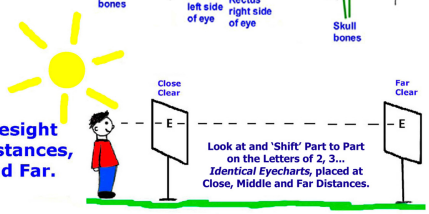
UNIVERSITY OF TORONTO
3 1761 01208036 2

Ophthalmologist William H. Bates

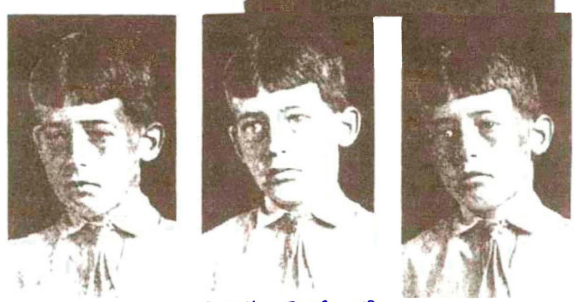
Pioneer Eye Doctor, Creator of *The Bates Method* For Clear Eyesight, Healthy Eyes From Childhood to Senior Years







Demonstrating again that the normal eye can regard the orb of day without injury. With the sun shining almost directly into her eye, the subject reads the Snellen test card with normal vision.



Does Your Boy Squint?

Avoid Squinting, Staring. Learn to 'Relax and Shift' For Clear Eyesight.

In this picture the boy is making himself myopic by partly closing his eyes and making conscious effort to read the test card at ten feet.

The same boy straining to see at a distance is producing myopic astigmatism in eyes previously normal.

This boy is reading the Snellen test card with normal vision. Note the absence of facial strain.

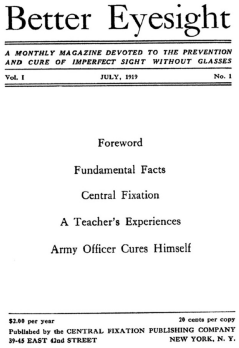
Dr. Bates Discovered Natural Eyesight Improvement
Author of *Better Eyesight Magazine* &
The Cure Of Imperfect Sight By Treatment Without Glasses

Dr. Bates' Original and Modern Eyecharts Included in This Book

Download 20 Free E-Books at www.cleareyesight-batesmethod.info

Dr. Bates' Method also improves *Reading Vision*; See small and fine print clear at close distances, and closer reading distances; 30+ inches to 3, 2, 1 inches from the eyes and closer. See the vision produce a natural microscope effect WITHOUT GLASSES! The method is effective at any age; childhood to senior years - over 40 and up.

Shifting: When looking at an object; ***move on it*** from part to part. Example; a letter E on a eyechart or a tiny fine print E; Look at the top, then move 'Shift' to the bottom, then shift to the top again, or to the left side, then to the right side, then bottom, top, corners... Shift freely to any part. Shifting also occurs when looking from object to object, and distance to distance. Movement 'shifting' relaxes the eyes, mind and keeps the eyesight clear. A natural vision function for clear eyesight without glasses. With practice it becomes a healthy, automatic habit.



Better Eyesight

A MONTHLY MAGAZINE DEVOTED TO THE PREVENTION AND CURE OF IMPERFECT SIGHT WITHOUT GLASSES

Vol. I JULY, 1919 No. 1

Foreword

Fundamental Facts

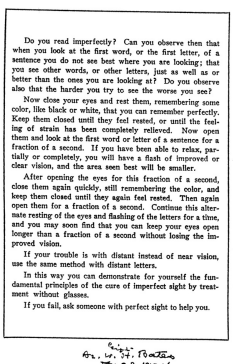
Central Fixation

A Teacher's Experiences

Army Officer Cures Himself

$2.00 per year — 20 cents per copy

Published by the CENTRAL FIXATION PUBLISHING COMPANY
29-45 EAST 42nd STREET NEW YORK, N. Y.



Do you read imperfectly? Can you observe then that when you look at the first word, or the first letter, of a sentence you do not see best where you are looking; that you see other words, or other letters, just as well as or better than the ones you are looking at? Do you observe also that the harder you try to see the worse you see?

Now close your eyes and rest them, remembering some color, like black or white, that you can remember perfectly. Keep them closed until they feel rested, or until the feeling of strain has been completely relieved. Now open them and look at the first word or letter of a sentence for a fraction of a second. If you have been able to relax, partially or completely, you will have a flash of improved or clear vision, and the area seen best will be smaller.

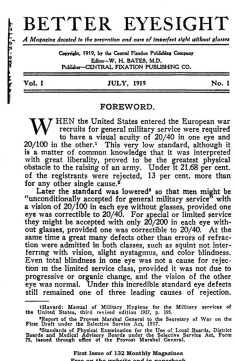
After opening the eyes for this fraction of a second, close them again quickly, still remembering the color, and keep them closed until they again feel rested. Then again open them for a fraction of a second. Continue this alternate resting of the eyes and flashing of the letters for a time, and you may soon find that you can keep your eyes open longer than a fraction of a second without losing the improved vision.

If your trouble is with distant instead of near vision, use the same method with distant letters.

In this way you can demonstrate for yourself the fundamental principles of the cure of imperfect sight by treatment without glasses.

If you fail, ask someone with perfect sight to help you.

Dr. W. H. Bates
Oct. 28. 1924



BETTER EYESIGHT

A Magazine devoted to the prevention and cure of imperfect sight without glasses

Copyright, 1919, by the Central Fixation Publishing Company

Editor—W. H. BATES, M.D.
Publisher—CENTRAL FIXATION PUBLISHING CO.

Vol. I JULY, 1919 No. 1

FOREWORD.

WHEN the United States entered the European war recruits for general military service were required to have a visual acuity of 20/40 in one eye and 20/100 in the other.[1] This very low standard, although it is a matter of common knowledge that it was interpreted with great liberality, proved to be the greatest physical obstacle to the raising of an army. Under it 21.68 per cent. of the registrants were rejected, 13 per cent. more than for any other single cause.[2]

Later the standard was lowered[3] so that men might be "unconditionally accepted for general military service" with a vision of 20/100 in each eye without glasses, provided one eye was correctible to 20/40. For special or limited service they might be accepted with only 20/200 in each eye without glasses, provided one was correctible to 20/40. At the same time a great many defects other than errors of refraction were admitted in both classes, such as squint not interferring with vision, slight nystagmus, and color blindness. Even total blindness in one eye was not a cause for rejection in the limited service class, provided it was not due to progressive or organic change, and the vision of the other eye was normal. Under this incredible standard eye defects still remained one of three leading causes of rejection.

[1]Ulrand: Manual of Military Hygiene for the Military services of the United States, third revised edition 1917, p. 105.

[2]Report of the Provost Marshal General to the Secretary of War on the First Draft under the Selective Service Act, 1917, p. 38.

[3]Standards of Physical Examination for the Use of Local Boards, District Boards and Medical Advisory Boards under the Selective Service Act, Form 78, issued through office of the Provost Marshal General.

First Issue of 132 Monthly Magazines
Free on the website and in paperback